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Vol. 89

SEPTEMBER, 1949

No. 9

AMERICAN BEE JOURNAL

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Volume 89, No. 9

HAMILTON, ILLINOIS

September, 1949

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The American Bee Journal
HAMILTON, ILLINOIS

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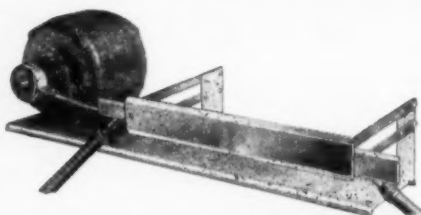
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NOT LONG AGO, AN OLD FRIEND BEE-keeper came into our office for queens. In the course of the conversation he remarked that he would like to get back to the "good old days" when he was able to market all of his honey himself. He then raised enough comb honey in frames to require his extracted honey for the completion of chunk honey packs. He didn't have any trouble in disposing of his crop, and if the market was slow, by special efforts in storage this chunk honey was kept in the combs over a considerable period beyond what we think possible in these northern areas.

While we are not recommending the production of chunk or bulk comb honey everywhere, certain it is that many of us, including our friend above, have seen our honey market, or a part of it, disappear because of our own fault in not taking care of it when we had it. Even in our own organization, during the war we had to turn down local customers because we had no honey. We had sold jobbing lots earlier which caused our own supply shortage.

The same can be repeated many times over, we are sure, in the experience of our readers.

The ideal and logical way to dispose of a honey crop would be to turn it all over to collectors, then let centralized packing plants process and put it out at a satisfactory, stable, and remunerative price, blanketing the nation's food stores, just as is done in the case of butter and cheese at present. The packers have said in the past that they would be able to do the job, to the benefit of themselves, the producer, and the consumer.

But it hasn't worked out entirely that way. Perhaps we are a little too impatient. It is true that there has been little enough time since honey has again come into oversupply, to let the distributors make a comprehensive effort to get this universal distribution.

Or perhaps the consumers got "fed up" during sugar shortage not only with honey, some

of it very inferior, but with too high prices, and when sugar came back were only too glad to ignore honey as an item in the diet. It is necessary to re-educate our consuming public and rebuild that demand.

It has always been our contention that heavy flows and good crops are a blessing in more ways than one. Not only is the cost of production reduced, but the accompanying publicity which comes with honeyflows, swarms, etc. incites the public to buy. In addition, one gets honey from his own vicinity which always tastes better, whether it is or not.

Certainly orderly marketing is to be desired. But we wonder whether our general distributors of food products, as well as our specialized packers of honey will ever be able to reach Mrs. Jones and Mrs. Smith next door. They might want to buy from the beekeeper and not from the grocery salesman who has a thousand items on his shelves, and who thinks most of them move more quickly than honey.

If the chain grocery or the independent is supplied with good honey, all is well. But let us not dispose of our marketing problem quickly by selling our honey in a lump to an outside buyer, only to find that locally our friends and fellow citizens are not able to get honey because it isn't an item on their grocer's shelves.

An Important Objective

THE INTERNATIONAL POLLINATION conference at Seattle has exerted an influence far beyond the group which gathered to consider the problems under discussion. A nationwide broadcast over one of the great chains brought it to the attention of a great listening audience and extensive newspaper comment reached other thousands. It is the urgency of the pollination problem to growers of specialized crops in many highly cultivated areas which brings this public attention.

In many neighborhoods it appears that the only insurance for the grower is some kind of supplemental bee pasture, which will make pos-

See It •



sible all-year support for the bees which are necessary to distribute the pollen at the critical time. Properly used, the roadsides offer promise of providing some of this special pasture.

It is proposed that the Nectar and Pollen Committee of the Federation cooperate with any beekeeping organization in an effort to secure the interest of the highway commission in demonstration plantings of plants which meet the needs of the highway commission in erosion control and highway beautification, and also supply bee pasture at critical times.

Such a demonstration would not be very expensive for the highway commission of any state and should be of equal interest to the public for game cover and for ornamental value. Properly planted, it should add greatly to the attraction of the particular strip of highway and demonstrate one way of meeting a critical local problem.

Most officials are cooperative when expected to make use of only such material as is entirely suited to the purpose which they have in mind, and are quite willing to select an item which serves other purposes as well.

Let's "Follow Up" the School Lunch Purchase!

WE BEEKEEPERS ARE OVERLOOKING a golden opportunity to capitalize on the School Lunch Program if we do not personally interview school officials and those who deal with the honey in preparing menus. We want to get more out of this program than just disposal of our surplus—we want to see to it that the honey is used to the best advantage so that the children will like it as a spread as well as in recipes.

S. Joaquin Watkins of California has had fine success in furnishing his local school superintendent with literature (obtained from the American Honey Institute) including recipes which the school can use, methods of handling honey, and suggestions such as honey-peanut butter or true honey butter for a bread-spread.

The superintendent in this case, Mr. Lawrence E. Toddhunter of the Selma Elementary Schools, was very appreciative of the help which Mr. Watkins gave, and also bought some honey for his own personal use. In a letter of thanks to the beekeeper, he suggested that state school authorities would also be interested in learning more about using honey.

Each beekeeper should consider himself a "committee of one" to contact local school authorities and help boost the use of honey. If the best use is made of it, good results will be seen in the increased interest in honey among not only the school children, but the school authorities and parents.

Sales Promotion and Selling

ART KEHL, G. B. LEWIS COMPANY, IN A talk recently at Janesville, Wisconsin, pointed out that there is a marked difference between sales promotion for honey and selling of honey. He stated that the excellent work of the American Honey Institute is sales promotional and must be coupled with sales before a pound of honey is actually sold. Using himself as an example, Kehl said that his work with the Lewis Company was sales promotional, such as getting out the catalogue, advertising layouts, and selling helps, but asked, "How much would we sell if we didn't have dealers all over the country selling bee supplies for us?" We ask, is this where the honey industry is failing in its marketing program?

Mixing Honey Crops

WE URGE BEEKEEPERS TO EXTRACT light honey before the fall flow begins. Keep your crops separated as much as possible, removing one before the next one is upon you. While many of us may prefer the darker, stronger honeys to the lighter, milder ones, the general markets usually will pay a higher price for the lighter honeys, and prefer a honey from a single source.



Seed Production in Red Clover and Alfalfa in the Corn Belt

by C. J. Willard *

From a talk presented at the meeting of the American Seed Trade Association, Chicago, Illinois, January, 1949.

THE seriousness of the clover and alfalfa seed situation needs no elaboration. This situation has led to extensive research, notably through the seven fellowships supported in as many states by the American Seed Trade Association in cooperation with the ICIA, the Regional Legume Seed Research Laboratory of the U.S.D.A. at Columbus, Ohio, and many state projects in addition.

What have these projects found out? To a considerable extent they have underscored the amazing complexity of the problems involved. To obtain a good crop of clover or alfalfa seed is like crossing a bridge of many spans. If any one span is out, you don't cross the bridge. What are some of the spans in this bridge to good seed yields?

Good vigorous stands of the crops are needed to produce good yields. On soils where fertilizers are needed and used, they have increased seed production up to 65 per cent (4). So far, fertilizers applied to satisfactory hay crops have not increased seed yields (1, 2, 3, 4), although there is a suggestion that magnesium may increase red clover seed yields (1).

Cultural practices in growing the crop have an important bearing on seed production. Rate of seeding (2, 6); seeding with or without a companion (or nurse) crop (1, 2, 6); kinds of nurse crops (1, 2, 6); planting in rows of various widths

(1, 2, 4, 6); various methods of handling the stubble after harvesting a grain companion crop (1, 2, 6); and many other practices are being re-examined by these projects. So far, however, there is no evidence that seed production will profit significantly by any cultural practice not already extensively recommended. All tests, new and old (1, 3, 4, 6) agree that red clover should be cut in early bloom and cutting finished by full bloom for maximum seed yields. This is because a better growth for seed production is obtained when some reserve moisture is left in the soil for the second cutting, but insects, both injurious and pollinating, may also be factors. Alfalfa shows the same reaction to early cutting where drouth is a problem (7). Alfalfa must be so cut that sufficient root reserves are present for vigorous growth (3, 7), if good seed yields are to be obtained.

Weeds reduce seed yield and quality. Chemical weed control is no part of these ASTA projects, but studies are being made of the possibility of chemical weed control in clover fields.

Diseases affect seed production. So far, no chemical controls of any clover and alfalfa diseases have been developed, so the disease factor may be controlled only by breeding and then growing resistant varieties. **Adapted, disease-resistant varieties** are an essential part of any seed production program and the cooperative studies with the U.S.D.A. headed by Dr. Hollowell for red clover, and

until 1949 by Dr. Tysdal for alfalfa, have produced outstanding results. Of course, these difficulties in seed production are a major handicap in introducing new varieties of clover and alfalfa quickly. All states in the region have tested alfalfa varieties, and all those east of the Missouri River, red clover.

Insects may destroy the plants. This is especially true of red clover. The near-total failure of red clover seed in Ohio, and presumably elsewhere in the region in 1947 was due to destruction by clover root-borer. The potato leafhopper stunts the plants and prevents flowering in both alfalfa and red clover. Spittle bugs seriously reduced the yield of red clover in Ohio the past three years. Grasshoppers are a major problem. There is a definite hope now that these pests can really be stopped. Benzene hexachloride has given some good controls of clover root borer (6), although we cannot yet give directions for its farm use. It will also control spittle bug. DDT will control leafhoppers and many other insects. DDT may also control the sweet clover weevil (5, 6), which has gone far to drive sweet clover out of Corn Belt rotations. Chlordane is becoming a standard treatment for grasshoppers (1, 5). Chlorinated camphene has also given good results on grasshoppers and sweet clover weevils. (5). Seed increases on red clover up to 150 per cent have been obtained by controlling grasshoppers (1); in fact some report that chlordane made the difference be-

*Professor of Agronomy, Ohio State University; Associate in Agronomy, Ohio Agricultural Experiment Station.

tween yields too small to harvest and 2 to 2½ bushels of clover seed per acre.

Insects may destroy flowers and seed. Even after bloom appears, insects may prevent seed production. Lygus bugs attack the flowers of alfalfa, so that no seed is formed. The clover flower midge works in clover heads, destroying many of the flowers and young seeds. The clover seed chalcis lays eggs in young seeds of alfalfa and red clover. The larva develops inside the seed, destroying it. In many Western states Lygus bugs have been so much the dominant unfavorable factor that when they were killed by DDT, as they readily may be, amazing increases in seed yields have resulted (3, 4, 5)—in fact an important share of our big alfalfa seed yield of 1947 was due to DDT treatments. This is an interesting example of the spectacular results which can be obtained when **just one** unfavorable factor has been responsible for seed failures. Lygus bugs may need more than one treatment (5). Control of Lygus, etc., is no insurance of seed production (5, 6).

Alfalfa and red clover must be insect pollinated. Here lies perhaps our major problem in seed production of these crops. Neither plant will set seed from its own pollen, so we are dependent on insect pollination. As we cultivate more of our land the wild bees are destroyed by destruction of their nesting places. So far, the honey bee is the only even slightly domesticated insect we have in this country.

Pollination In England

The "Farmer's Gazette" reports that in Kent County, England the value of bees in fruit pollination is realized to the extent that \$12.00 a colony is paid for orchard pollination. It is reported that one beekeeper with 500 colonies was paid 1500 pounds (\$6,000) in addition to his expense of moving for one week's use of his bees for orchard pollination.

A. P. Homan

On July 25, A. P. Homan of Shannon, Mississippi, passed away at the age of sixty-seven. He began his long career in the beekeeping business in 1918 with the late A. E. Shaw, with whom he worked until

Unfortunately, although honey bees pollinate both red clover and alfalfa at times and actually do a major share of what pollinating is done (6) they are very inefficient in pollinating either crop (1). **This is the span of our bridge to seed production which is most frequently out, and hardest to build.** A great deal of intensive work is going into pollination problems—studying both wild pollinators and means of making honey bees more effective. Attempts at breeding both crops and bees for greater pollinating efficiency are among the solutions being tried. Soil fertilization did not affect pollination (4). Tall weeds reduced pollination, but a companion grass increased it (4). We have hardly scratched the surface of the pollination problem, and it is likely that lack of pollination will more and more be the major bottleneck in clover and alfalfa seed production, simply because the other problems are more nearly solved.

Wet weather at blooming time is a hazard to alfalfa and clover seed production. Failure of pollinating insects to be abroad is one probable reason for this, and physiological reasons, which need more study have also been given.

Finally, **poor harvesting methods** lose a considerable share of what seed is produced. I know of no research studies on this problem in the Corn Belt, though it is often mentioned as a problem (1, 4). The seed crop should be handled as little as possible, and when slightly damp to prevent shattering (1). Proper ad-

1939. At that time he entered business with his sons, J. D. Homan and Farris Homan. This partnership was dissolved in 1941 when J. D. Homan entered the service. Mr. Homan then went into the business of Homan Brothers, breeders of bees and queens, along with J. D. Homan and Alfred Homan and was with them until his death.

Maurice Maeterlinck

Probably the most interesting bee book ever written, at least from the standpoint of the layman, is Maeterlinck's "Life of the Bee." Every reader of our magazine should read this book which combines accuracy of observation with a smooth, fascinating method of presentation. This masterpiece first appeared in 1901 and has had innumerable reprintings,

justment of the combine is very important. Kentucky reported losses from poor combining of 50 to 75 per cent in two instances.

This summarizes the many factors that must be right before we get good seed yields. Regardless of how fast we solve some of these problems in research studies, it clearly will be some time before a majority of seed growers have all these things set up at the same time so that generally good seed yields are obtained. It is not surprising that seed yields are poor—the surprise is that we get as much seed as we do. This is not intended to be discouraging—never before have we had so much reason to be hopeful. Many of these problems are well on their way to solution, and our seed yields are due to increase rather than decrease from here on, provided we can solve our pollination problems. The biggest problem facing producers of both crops is that of pollinating insects, so far as difficulty of solution is concerned.

Reports Cited

This paper was prepared from a study of the reports of the American Seed Trade Association, Legume Seed Research Fellows and other publications of the following institutions, referred to by number in the text:

1. University of Illinois and Illinois Agricultural Experiment Station.
2. Purdue University and Agricultural Experiment Station.
3. Kansas State College and Agricultural Experiment Station.
4. University of Kentucky and Kentucky Agricultural Experiment Station.
5. University of Nebraska and Nebraska Agricultural Experiment Station.
6. Ohio State University and Agricultural Experiment Station.
7. Oklahoma State College and Agricultural Experiment Station.

the last one appearing in 1948. It takes a good book to survive for 47 years and still be fresh and accurate.

On May 7, Maurice Maeterlinck passed away in France at the age of 87. Of Flemish birth, he spent much of his life in France. Poet, naturalist, philosopher, Maeterlinck wrote in simple language which attracted readers from every walk of life.

Honey As Therapeutic Agent

The Microbiology Institute of the Academy of Sciences of the U.S.S.R. is author of the statement that with slowly healing wounds, 90 per cent of the patients were improved by honey applications. Favorable effects were also noted with ulcers, chronic dysentery, jaundice, and swellings due to heart and kidney ailments.



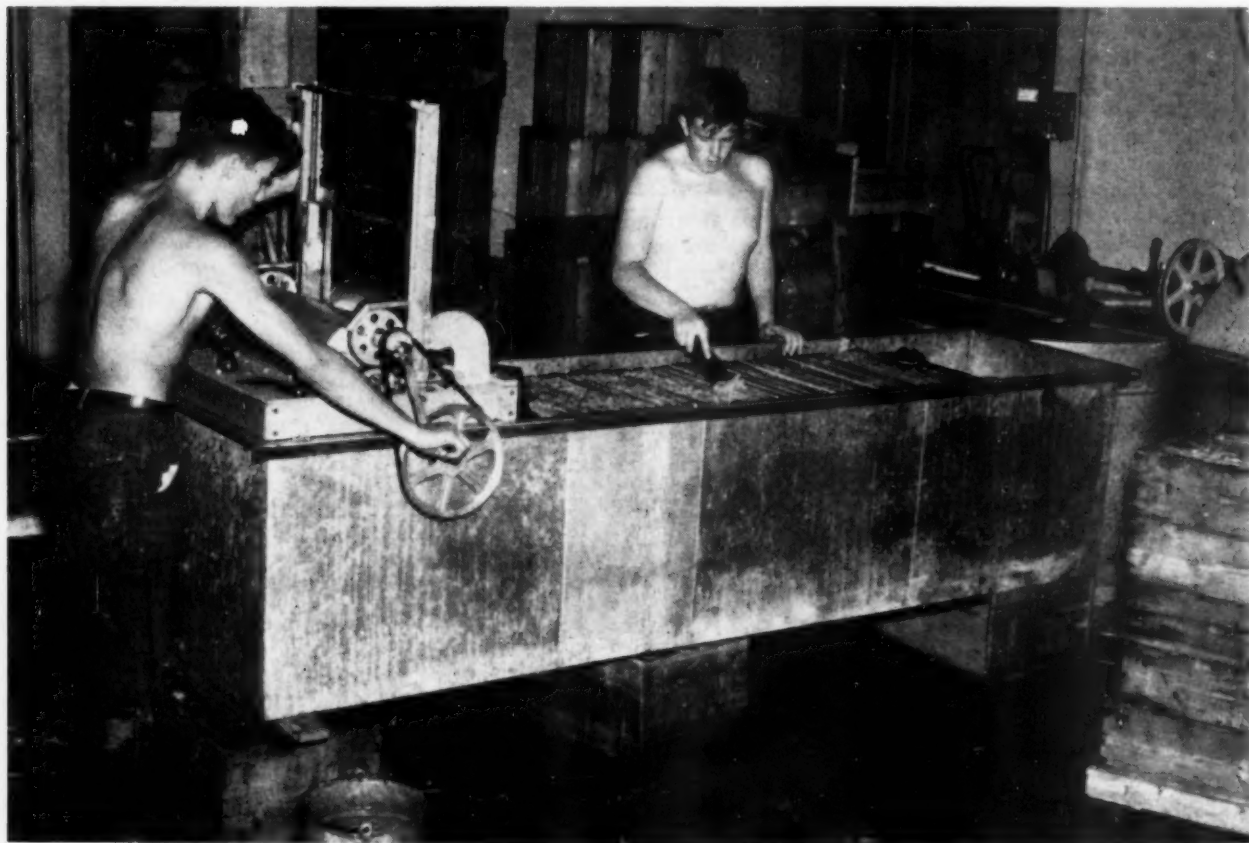
(Above) The Boganschutze machine and the men who developed it. Clayton, New York. (Below) The uncapper in operation. Burr comb on the top bars is scraped off after the combs are uncapped and together in the tank.

Uncapping Machines

by Charles Mraz

WITH the development of the highly efficient modern radial extractor it is only natural that the beekeeper's eye and interest should turn to an easier and faster method of uncapping. The various types of uncapping knives are limited in efficiency, and with the best of them uncapping is a slow, hard job—the bottleneck in the extracting house. Reduction of labor, with the high cost of labor today, is one of the best approaches to reducing the cost of honey production, and if uncapping machines can reduce the cost of uncapping, they are worth investigating.

My experience the past two seasons was with two machines, the Wilcox and the Boganschutze. They both work on the same principle of using cutting heads; the first machine using

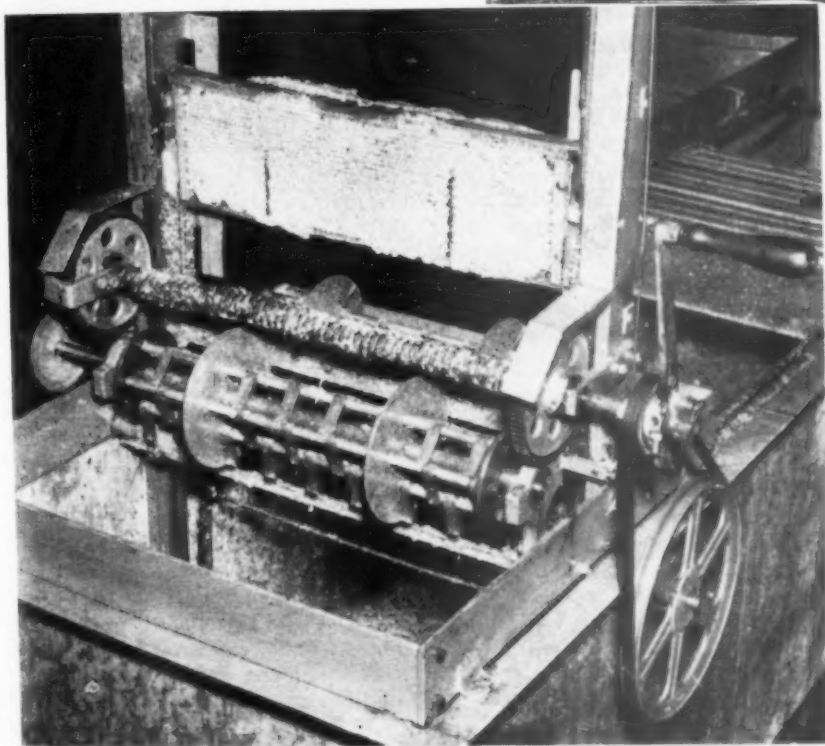
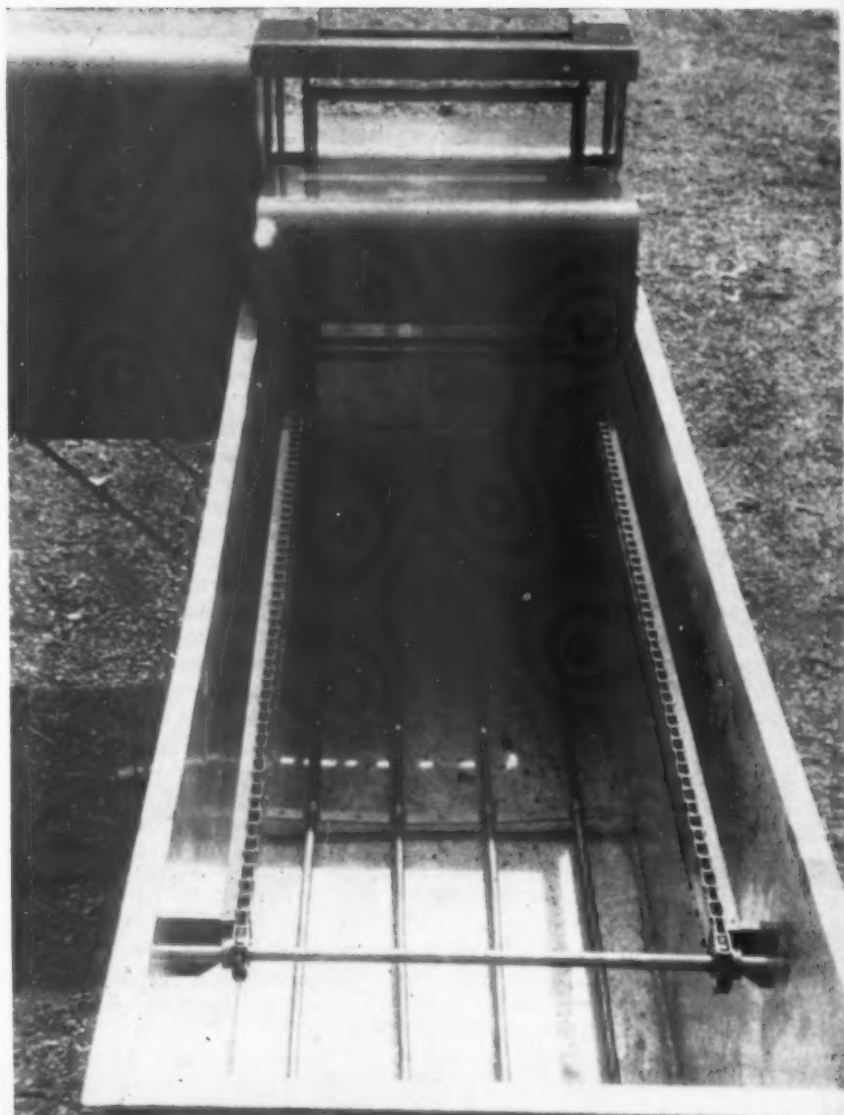


a hand feed, the second, a mechanical chain feed. The purpose of this article is to describe the machines and how they have worked so far under actual operation.

On these machines the uncapping is done by cutters approximately $\frac{1}{2}$ inch wide that swing out from shafts somewhat on the idea of a flail. There seem to be several important advantages of this type of cutter. No heat is required nor is there any sharpening need. In fact, the cutters seem to operate better if they are dull than if they are sharp. The greatest advantage of this type cutter is the fact that any kind of combs can be uncapped. The combs can be thick or thin, new or old, crooked or straight, full of pollen or empty. Even broken wires or pieces of wood sticking out anywhere in the comb make no difference. And these are important features in the rush of extracting season, when a holdup with uncapping means delay all along the line.

When old combs are first uncapped with the machine, some old comb wax goes with the white capping wax. However, after the first year,

(Top right) View of the uncapping tank and chains that convey the combs from the uncapper. The capacity of the tank is about 50 combs so that it will hold an extractor load at a time. (Below) The Wilcox machine, showing cutter. The discs are a little larger than the cutting diameter so that it is impossible to damage bottom or top bars of the frames. The discs move the cutting heads away from the comb if they hit solid material like wooden bars.



the bees build out the new comb so that in succeeding years the cappings will all be nice white wax. The uncapping machine has a tendency to make all the combs nice and straight, since it cuts the comb down very evenly. For some reason, honey also seems to extract more easily when uncapped by the machine than when uncapped by a knife. When a comb uncapped by the machine is left in the tank overnight, almost all the honey will drain out of it. This does not happen with combs uncapped with a knife.

These machines can uncap quickly about eight combs per minute, if one really wants to hurry. During the past season, I have uncapped 20 supers with eight combs each in 25 minutes without any trouble. It takes some fast work on the extractors to keep up with that speed. With one man uncapping and another man operating two or more large extractors, a lot of honey can be extracted in one day. As can be seen

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Marketing the Honey Crop

by E. Worth

TO the honey producer it seems strange that the demand for his product, admittedly a delicacy for kings, is not great enough to keep the price in proportion to the general level of prices. To realize that it is not real value that counts, but rather the estimate of value made by the uninformed public, takes some thought. People got into the habit during recent years of scarcity and high prices, of thinking of honey as a luxury, and of assuming that a dollar spent for honey is not a dollar well spent. This has done a great deal of harm. It is easy to point out that the nutritional value of honey is, ounce for ounce, as 7 is to 4 in comparison with the value of corn sirup, but to tell enough people about it to make a difference in the demand and so in the price, is another matter.

To put it in another way, the calorie value of honey is 75 per cent greater than the calorie value of an equal weight of corn sirup. That is a statement worth remembering. I doubt if one beekeeper in a hundred realizes it, let alone the average buyer of corn sirup. Perhaps if the beekeeper keeps telling himself the truth about the relative value of honey and corn sirup, he will begin at length to tell his customers about it. It is up to the beekeeper to be the advocate of his product, and to put before the public, by his own efforts and by organized advertising, the very real reasons which demand that honey should be a daily item on the dinner table.

Let us put the relationship of honey and corn sirup in still another way. If a pail of corn sirup of a given weight costs one dollar, an equivalent weight of honey should cost one dollar and seventy-five cents. This statement takes no account of the very real worth of the minerals and other extras in honey. If account is taken of these, we can say that honey is, for nutrition alone, worth double the price of corn sirup. It seems that, after all, honey is not a luxury but a food that should appeal to the family which has a hard time balancing its budget.

However, there is something to be

said for the housewife who buys corn sirup or jam instead of honey because her family finds these more attractive bread-spreads. Even if she is wrong in assuming that she is saving money when she ignores honey, there is something to be said for her when she talks about the jam pail being empty by her family much more quickly than the honey pail. The simple truth is that honey is too sweet. That honey should fail to sell because it is too good is surely something of a paradox.

If honey could be sold in a less sweet form, I believe that sales would immediately brighten. Granulated honey is of course milder than new honey or liquefied honey, but even it is too sweet for many tastes. Also, the granulation makes it unavailable for some of the uses for which it might otherwise be used, such as making the thin sirup for pancakes. If diluted honey were generally used for pancakes, a noticeable difference would be made in our total honey sales.

However, there seems to be no satisfactory diluent for honey. Water would be ideal, if it were not for the problem of fermentation. In spite of this handicap, it is probable that we shall see the day when every grocer will stock sealed bottles or cans of honey-water, of the size that a family might use in a week. If such containers were processed as we process fruits, there could be no difficulty with fermentation until some time after the honey had been opened. Restaurants and hotels could absorb honey-water in large quantities. Indeed, the honey-water probably could be sold in quantity to suitable markets now.

I do not know if there is any chemical means of preventing fermentation that would constitute a hazard to the consuming public when used in the concentration needed. Probably not, at the present time, but who knows when such a convenient formula will be discovered?

There is of course the possibility of mixing honey and white sugar sirup in about equal quantities and marketing it, under a name that would not be misleading, with

government approval. As long as such a product was used in the liquid form only, and granulation never allowed to commence, it might be an attractive substitute for pure honey. The fact that it would be sold at a price only a little above the half-way mark between sugar sirup and honey would appeal to buyers. The delicate flavors of the better grades of honey would be sufficient to give it enough taste, however some honeys, such as alfalfa, would not have sufficient flavor to permit dilution. This honey sirup would be something new, but it would not solve the problem of selling pure honey, or the complaint that it is too sweet.

It is a well-known fact that honey consists of two sugars, one much sweeter than sugar sirup and the other about half as sweet, and that the blend of the two as it occurs in the average honey brings it to about the same sweetness as sugar sirup. Modern science has devised a centrifugal process which will separate levulose and dextrose, the two important sugars of honey, and a potential market exists for both. Levulose especially, would sell at an attractive figure, probably over double that of honey, and dextrose in pure form might easily sell for the same price as honey, if not more. If the artificial separation of the constituent sugars of honey is to be a commercial success, it would be a pity if the process were first exploited by the same companies which make our jams and corn sirups. That the honey producers' co-operatives should be the pioneers in this field of development is most desirable.

When all is said and done, it is time that we tried every device we can think of to help ourselves. There is no harm in having a part in any government program, to which other industries are also looking, except in so far as it may induce us to take a wait-and-see attitude instead of seeking some effective means to help ourselves. Of course, there is the benefit of having a high population of bees for their function in pollination, which, according to

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Let's Wake Up!

by H. W. Wightman

Are we beekeepers being taken for a ride? Yes, and we're getting nowhere fast. But by whom, and why? By ourselves, and all because we have neglected one of the most important aspects of our business. Yes, you have guessed it; I mean advertising.

What are our local, state, and national associations doing for us to promote honey sales? We attend our local beekeepers' meetings, listen to a good talk on methods for increasing honey production, eat our lunch and have some ice cream. Then we listen to more production talks and perhaps another on control of disease, pay our dues, shake hands with a few brother beekeepers and go home. So far so good. Perhaps we have picked up a little information on increasing our honey production, but what have we actually gained by learning how to increase our honey crop if we can't sell it at a profit?

Why can't we sell our honey at the present time? It's because the supply is greater than the demand. Why don't we wake up at our meetings and talk ways and means for creating a greater demand instead of stressing more production? It seems that all these years the beekeepers have followed a do-nothing policy of letting Nature take its course, instead of doing something toward educating the public about the wonderful, healthful, energy-giving food we have to offer, not to mention its great medicinal value for numerous ailments.

While interviewing many housewives, I found that very few families use even a small jar of honey during a year. Often some of that purchased is thrown out because it is thought to have become "spoiled," although it has only granulated. Most of these small jars of honey

were bought solely for coughs and colds—not as food.

What can we do to educate the public and make them more honey conscious? What do the manufacturers of other products do to increase their sales? For an answer to this question one has only to listen to a single radio program, or pick up the nearest magazine. If it pays the manufacturers of other food products to use radio advertising it would pay us. Surely there are enough beekeepers and processors to stand behind a considerable effort in that direction.

Let's get busy at our next beekeepers' meeting and really get something going. The horse-and- buggy days are gone, but that's where we've been living for the past fifty years. Let's wake up—even old Rip Van Winkle did!

New York





Dr. H. W. Youngken showing a group some English lavender in the Garden of Medicinal Plants.

The Fifth Annual Pollination Conference

by Herman F. Menke

Junior Entomologist,
State College of Washington

"THE beekeeper holds the key to national prosperity" stated Frank C. Pellett, distinguished speaker at the conference. His thought was the keynote of this meeting and the most important point expressed at the fifth annual conference.

The three-day meeting commenced on the morning of July 12, with nine states and Canada represented. Even though the attendance was not very large, those present represented many important interests in America's agriculture.

One of the speakers, Mr. Sverre N. Omdahl, Director, Washington State Department of Agriculture, spoke of his experience as a turnip seed producer and the increased yields obtained when he used colonies of bees. His production averaged one ton of turnip seed to the acre while surrounding producers who didn't have bees averaged only one-half ton to the acre. He predicted a considerable increase in the demand for bees used for pollination of the cole seed crops in the Northwest next year.

James I. Hambleton discussed the history of pollination, and our present

problems, which are: 1. maintenance of the number of colonies necessary for pollination; 2. the bee forage problem; and 3. a substantial livelihood for the beekeeper. He suggested that a two-unit course dealing with bees and pollination, similar to the one at Utah State College, should be offered in every agricultural college in America.

Tuesday afternoon, Mr. R. M. Turner, Assistant Director of the Agricultural Extension Service, State College of Washington, spoke on "The Function of the Extension Service in a Pollination and Planting Program." He stated, "Many problems cannot be solved by the individual farmer. They require joint community cooperation as has been found successful in soil conservation, weed control, or growing pure strains of new or old seed crops. It seems evident that successful work on increasing the yields of seed, vegetable crops, or fruit depends upon the cooperation of both the beekeepers' associations and the crop improvement associations in the various counties. For instance, increasing the

pollination of alfalfa fields may require community cooperation in controlling the lygus bug and continued group action in securing successful pollination. Since the Extension Service works with both these organizations, they are in a position to secure complete community working plans to assist committees in carrying out well-organized grower-beekeeper programs. Improved pollination practices for certain farm crops can greatly increase incomes of the growers and at the same time prove to be an important source of income to beekeepers. The Extension Service will be glad to cooperate fully."

Mr. Fred L. Overley, Superintendent and Horticulturist at the Tree Fruit Experiment Station, Wenatchee, Washington, presented a paper written by himself and R. M. Bullock, Assistant Horticulturist, "Fruit Production and Beekeeping." It emphasized the need for orchardists to know something about beekeeping, and the beekeepers to know some of the problems of the fruit growers. When a beekeeper furnishes



(Left to right) Mr. and Mrs. John Burt of Newberg, Oregon, and Gene Stanton, President of the Washington State Beekeepers Association.



(Left to right) Dr. A. M. Walrath, Local Arrangements Chairman for the Pollination Conference, and James I. Hambleton, Dept. of Bee Culture, U. S. D. A.

colonies for pollination, he should ask the fruit man about his pollinizing varieties, i. e., know what varieties he uses, how many he has and where they are placed. With this information the beekeeper knows if his bees can do the job providing the weather conditions are good.

Mr. Overley stated that hand pollination is the only satisfactory means other than insect pollination, but since the cost of hand pollination is 44 to 52 dollars per acre, bees, by far are the most economical agents for pollinating tree fruits.

The 1948 crop of apples in Washington was valued at \$79,000,000. The growers probably paid the beekeepers an average of \$6.00 per colony for pollination purposes. Probably 25,000 colonies were rented. What would the value of the crop have been without the \$150,000 investment on pollination?

Mr. Harry A. Schoth, agronomist, U.S.D.A., Oregon, gave an excellent talk on "Legume Seed Production and the Bee Industry," emphasizing the need for grassland agriculture, which he explained was simply a balanced agricultural program.

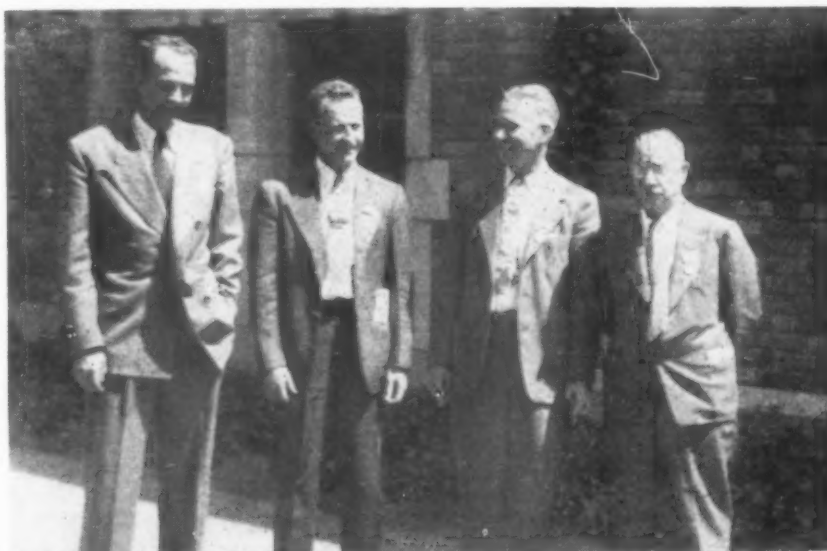
Wednesday's first speaker, Dr. S. W. Edgecombe, Chairman of the Honey and Pollen Plants Committee, discussed the topic "Vegetable Seed Production and Pollination." Some high points are quoted:

"The second group of vegetables and flowers (first group were self-

pollinated) are those that normally require most of their flowers to be pollinated by foreign pollen and present even more pressing pollination problems. Broccoli, Brussels sprouts, cabbage, cantaloupe, carrot, cauliflower, collards, cucumber, kale, kolrabi, muskmelon, onion, pepper, pumpkin, radish, rape, rutabaga, soybean, squash, sunflower, turnip and watermelon must be cross-pollinated. A few crops, beets are an example, are cross-pollinated by the wind. The remainder are cross-pollinated by insects. Many types of insects are involved in this cross-pollination.

Since the honey bee is easier to handle and works only one crop at a time, it is by far the most important insect in cross-pollination of these crops.

"In conclusion, may I make this plea. We need more research on the role of the honey bee and other native pollinating insects in the production of vegetable and flower seeds. This research is necessary to produce the highest yields of true-to-type varieties. We need to do this to maintain the increased seed production for our own country and for (Please turn to page 449)



Norman P. Knott, Joseph F. Pechanec, J. E. Eckert, and H. A. Scullen enjoying the conference on the campus at the University of Washington.

Price Support For Honey Passes House

ON August 2, 1949, the House of Representatives took up HR-29 which provided for price support for honey and tung nuts. The original Bill reported out of Committee asked for price support at 60 to 90 per cent of parity. However, the Bill HR-29 as presented to the House sought to amend the Agricultural Adjustment Act of 1938, to provide price support for tung nuts and honey at 90 per cent of parity using a base period of January 1936 to December 1940.

We are informed that this would provide a price-support level for honey at approximately 10½ cents at wholesale.

The Bill was introduced along with a resolution that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the Bill HR-29. The vote on this resolution which resulted in bringing the Bill to the floor was 335 for and only 21 against.

The opposition made several attempts to amend the Bill, among which was one move to strike tung nuts from the measure on the grounds that there was a defect in the title of the amended Bill, as reported out by the House Committee on Agriculture. On this point of order, the chair ruled that the House should consider the original Bill providing a mandatory support price for tung

nuts at 90 per cent of parity. Inasmuch as this would have struck honey from the Bill, Congressman Andresen, Minnesota, saved the day for the honey industry by offering an amendment to include honey in the original Colmer Bill. This was passed favorably by an overwhelming majority and, with a rising vote, the measure passed the House.

Those who spoke earnestly and well on the floor of the House during the day in support of the honey industry, and its importance through the pollination services of honey bees to agriculture, included the following: Walter K. Granger of Utah, Harold D. Cooley of North Carolina, Ben F. Jensen of Iowa, John Phillips of California, Leroy Johnson of California, George A. Dondero of Michigan, William S. Hill of Colorado, Edwin A. Hall of New York, James H. Morrison of Louisiana (who introduced the first Bill asking for price support for honey), John R. Murdock of Arizona, A. Leonard Allen of Louisiana, Charles B. Hoeven of Iowa, H. Carl Anderson of Minnesota, Cecil F. White of California (who had introduced a Bill similar to that of Mr. Morrison), E. C. Gathings of Arkansas, George M. Grant of Alabama, August H. Andresen of Minnesota, and John E. Rankin of Mississippi. The beekeeping industry is proud of the support of these distinguished gentlemen.

The Bill, at this writing, has gone to the Senate and was read before the Senate twice on August 3, 1949, and referred to the Committee on Agriculture and Forestry. We are also informed that, although this Committee at the moment is holding hearings on rural electrification legislation, an amendment already has been prepared to present to them which provides for price support for honey as adopted by the House of Representatives.

Inasmuch as the Senate has many, many important matters of legislation to dispose of in this session of Congress, it will require a lot of support from industry members to get this Bill approved by the Senate Agriculture Committee and passed in this session of Congress.

In the meantime, we are informed that the officials of the Fruit and Vegetable Branch of the Production and Marketing Administration, U. S. Department of Agriculture are working hard to find a solution for the industry's plight. At this writing, no decision has been made by them although industry representatives were promised an answer "right away" on July 15. No criticism of the Fruit and Vegetable Branch or any other officials of the Department of Agriculture is implied by this statement. The industry recognizes that the solution to its present plight is certainly not an easy one.

Honey For All Schools?

Does the distribution of free honey to the schools, include private ones like Catholic, Jewish, Lutheran, and the like?

This question was asked by Mr. M. Seifert of Chicago. The answer comes from Mr. H. C. Albin, Associate Director, Food Distribution Programs Branch, Production and Marketing Administration, U.S.D.A., Washington 25, D. C.

"Section 9 of the National School Lunch Act states in part: 'Com-

modities purchased under the authority of Section 32 of the Act of August 24, 1935, may be donated to schools in accordance with the needs as determined by local authorities for utilization in the school lunch program, as well as to other schools . . .'

"Thus it can be seen that the Act makes no distinction between public and private schools. Accordingly, any Section 32 commodities, including honey, may be distributed to non-profit private schools."

Argentine Honey? No Wonder!

"World News" tells of a million-dollar ranch in Argentina, counting their stock by the thousands and able to market beef at six cents and make a profit. The ranch together with many others of a similar nature, practices crop rotation in which is included the clovers and alfalfa. Not strange that fine white Argentine honey is coming into New York in increasing quantities. We need to build the European economy to the point where they can again consume their share of the world's honey.

Bee Buttons

by George E. Gould

Associate In Entomology, Purdue University Ag. Exp. Station

BOTH plants and animals have been popular subjects for the designers of buttons—animals of all kinds can be found and are usually pictured in their native surroundings. Insects occur in many button designs. In this collection of buttons there are over 450 different designs. Among the insects, the butterflies are the most common design, followed by beetles, flies, the bees, dragonflies, grasshoppers, and others.

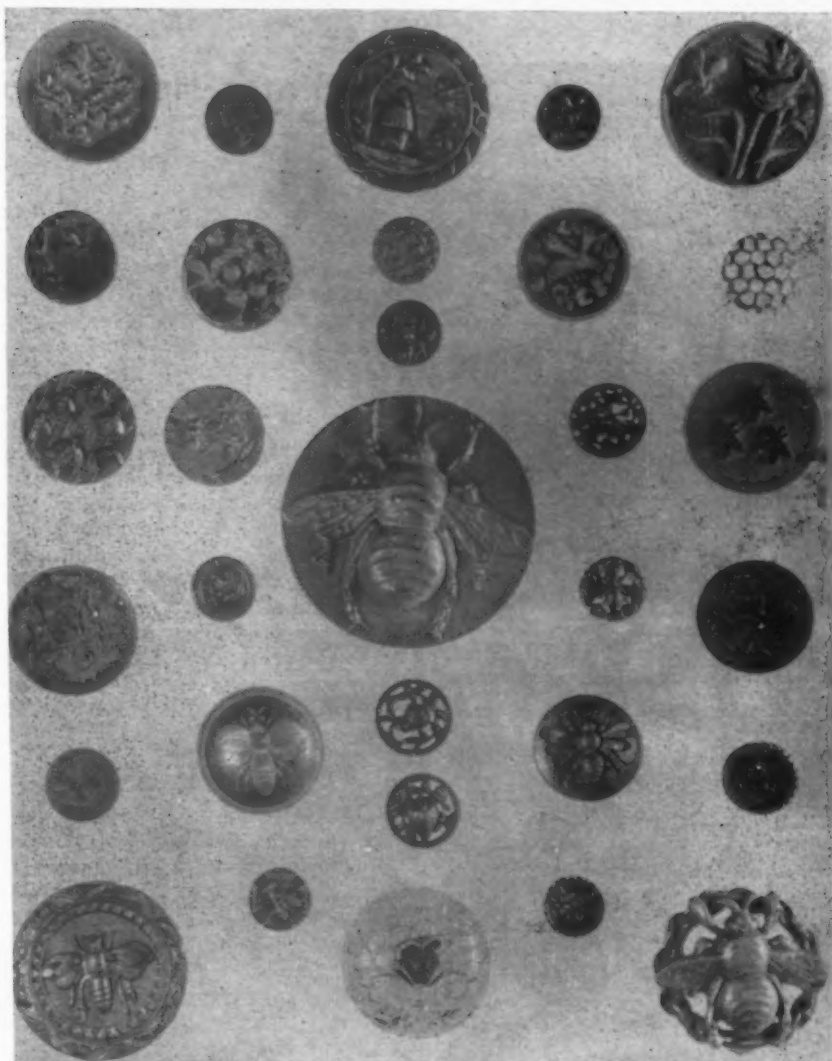
Bees are usually pictured on buttons along with flowers. A few show the old fashioned skep and some a section of comb. One of the most unusual designs is a bee stinging a running rabbit. In this case the bee is as large as the rabbit.

Another interesting sidelight on buttons is the use of colored beeswax in certain designs. On some rare ivory buttons containing pearl and tortoise shell inlays of flowers and insects, the berries in the design are made of red beeswax, while in others the spots on the wings of butterflies are of clear beeswax and show the color painted on the tortoise shell.

Material in buttons: Metals, especially brass, are most common. Glass, especially black glass (sometimes called jet) is second. Other materials include gold, silver, gems, horn, rubber, celluloid, and plastics.

Age of buttons: Collectors usually want buttons made before 1900. Buttons were worn only by the wealthy around 1800, but became quite popular as methods of stamping brass were developed. Black glass became popular around 1850 to 1870, while pearl and the cut steels were developed since 1890. Some collectors now specialize in multi-colored plastics.

Button collecting: the present hobby of collecting buttons was organized 10 years ago. The National Button Society now has about 2,000 members and there may be as many as 5,000 collectors not affiliated with it.



Left row, top to bottom:

1. Bee and lily-of-the-valley. This flower has frequently been used on buttons and in several instances with bees. This button is made of pressed brass.
2. Bee over a wreath of flowers. Material in this button is iridescent black glass.
3. Six bees of cut steel riveted on pressed brass.
4. Bee at strawberry blossom. Pressed brass with cut steels.
5. Bee and flower. Pressed brass with steel rim.
6. Large bee. This rare button is made of four parts: a cutout brass bee set on a wood background with cut steels on the wings and attached to the tin back with a decorative pressed brass rim.

Second row, top to bottom:

7. A skep with bees. This beautiful black glass button can be found with gold, silver or iridescent luster.
8. Bee at strawberry is similar to No. 4 and can be found in several materials, such as pewter and brass on pearl. This example has the design of pierced brass attached to the rolled rim of the brass back.
9. Bee and sunflower of one piece, pressed brass. This button also occurs in several materials and sizes.
10. Bees and passion flower. Design on pressed brass attached to tin back.
11. Large bee etched on convex brass. This rare French button shows the fine details found on the better grade of buttons. It is found in several sizes.
12. "Don't bee cross." The letters D-O-N-T can be found on the four parts of the cross. Slogan buttons, such as "Shoo Fly" and "Don't be a goose," were popular 50 to 60 years ago.

Center row, top to bottom:

13. Skep with two bees in flight. This button is common in several sizes and variation in design. The skep, bees and tree are of brass and made in one piece

with the rim. The background is a separate piece of brass, while the polished steel showing through the twining of the rope has the appearance of tiny mirrors.

14. Another design of a bee and lily-of-the-valley. A one-piece, heavy brass button made in France and often called a Paris button.

15. Steel bee on brass background.

16. Bee button of one-piece, pressed brass, possibly of modern manufacture.

17 and 18. Bee on a strawberry, one of pierced brass and one of pierced pewter. Variations of these designs are common.

19. Bee on honeycomb. This beautiful one-piece, blue glass button is a fine example of glass molding. It also occurs in clear and canary glass.

Fourth row, top to bottom:

20. Bee and flowers. Pressed brass.
21. Bee and flowers in enamel. This beautiful button has red, blue, green and white in the design. Enamel buttons are scarce.
22. Bee and strawberries. This pierced brass button occurs in several variations.
23. Bee in a ring. Pierced brass with a nickel finish.
24. Another design of pressed brass.
25. Bee and flowers. Pressed tin.

Fifth row, top to bottom:

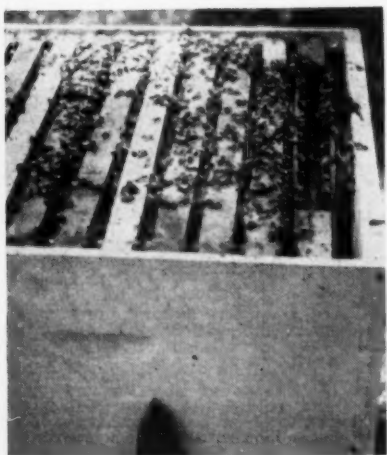
26. Bird and bee. Pressed brass.
27. Honeycomb with one cell filled with pollen. One-piece glass.
28. Three bees on a pick-back horn button. In the manufacture of such buttons, hoofs and horns of animals were processed and molded into shape. To remove the hot button from a mold a sharp-pointed pick was jabbed into the back.
29. Bee flying to flower. One-piece brass, Paris button.
30. Bee design on pressed brass with cut steels around border.
31. A large cutout bee soldered to a ring of interwoven rope. This is probably a modern button.



Bears? No, tornado. What happens to a bee yard when the wind blows too hard—just pushed the hives over backwards, almost gently, with the crop on. Not more than one super of combs was broken. Ohmeri Bee Farms, Iowa.



I am quite proud of the sign on our truck which I painted. It depicts a queen bee on a skep in full color. Dene Eaves, Nebraska.



A division board feeder as a permanent part of the hive equipment makes it easy to feed dry sugar or sirup when ever feeding is necessary. Metal feeders are best as they very seldom leak.

All-States Honey Store

In "Farmers' Market Today," a department in the Los Angeles Times by Fred Beck, there has been an account of the All-State Honey Store at Farmers' Market which has honey on sale from many states of the Union. The honey offered includes alfalfa from Colorado; orange, eucalyptus, and mountain manzanita from California; mesquite from Arizona; gallberry and sourwood from Georgia; Rocke's famous brand from Illinois; Idaho and Minnesota clover; Missouri bluevine; sage from Nevada; eight kinds from New York and three from New Jersey; vetch from Oregon; and outstanding honeys from Australia, Cuba, Canada, Brazil, Italy, Hawaii, and Mexico.

Arejas Vitkauskas, New Jersey.

The Effect of DDT On Honey Bees

In an article in the Journal of Economic Entomology for December, 1943, Ray F. Smith, J. W. MacSwain, E. G. Linsley, and F. R. Platt of the University of California report some definite conclusions based on field experiments made with DDT dusting. In an area two miles square near Blyth, California, containing a limited acreage of pollen and nectar sources and in which the honey bee population was controlled, the effects of DDT dusting on honey bees were carefully studied. Techniques for measuring these effects are discussed in the article.

It was shown by marking that most of the bees from the experimental hives were visiting one alfalfa seed field, and also that the majority of the bees in this field were from the experimental colonies. This field was dusted three times with thirty pounds of five per cent DDT dust per acre per application. This experiment demonstrated that such dusting of alfalfa in bloom has a detrimental effect on the production and activity of honey bees. Although this effect is definite it is small and is more than offset by the increased nectar flow when lygus bugs are controlled. The marked decline in bee populations in a dusted field immediately after treatment would seem to be largely due to repellent action of DDT dusts. Even though the effect on the bees is not great, dusting of alfalfa in bloom should be restricted to the essential minimum and should be done in the early morning before the bees are active.

On the basis of this experiment, it was concluded that if dusting of alfalfa is kept to the minimum required for control of lygus bugs, there is no serious hazard to bees and that ultimately both the beekeeper and the seed grower will be benefited. Although the DDT will repel the bees with a resulting decline in population, recovery is rapid (three to five days) and if lygus control is effective the increased bloom in the field attracts even larger numbers of bees than were present before the dusting.

Australian Honey and Beekeeping

American palates are now being sweetened by Australian honey, which is also finding a market in the United Kingdom, India, Pakistan, China, Pacific Islands and other countries. During the financial year ending this month, Australian honey exports are expected to total 30,000,000 lbs. There are about 900 species of honey bees recorded in Australia, and 1,600 bee farmers operate an average of slightly more than 200 hives each. Existence of the industry depends on the amount of eucalypt flora available of which there are 600 varieties. They are a source of a light clear honey which has good body and mild flavor. A favorite is a candied brand which is as soft and creamy as fudge and tastes very similar to maple sugar. (BEEKEEPING ON THE MOVE, a documentary film telling how Australian bee farmers follow the best blooms for the honey, is available from the Australian News and Information Bureau, 636 Fifth Ave., New York.)

Palisades Park Open To Beekeepers

According to a clipping which was sent by Arejas Vitkauskas, of New Jersey, beekeepers in the North Jersey Association have been invited to use Palisades Park as a location for bees so that there may be an abundance of pollinating insects in the park to maintain the natural abundance of wild plant life which makes up 85% of the park.

Honey Prices In Eire

A prominent packing firm in Eire (Ireland) is paying one shilling (20c) a pound for extracted honey and two shillings for comb honey, and urging in its advertising that the beekeeper produce comb honey whenever possible. Good advice.

Experiment With Pollenized Food

The Federal Security Agency Public Health Service has published an interesting reprint (Reprint No. 100 from the Journal of the National Cancer Institute) entitled "Delay in the Appearance of Palpable Mammary Tumors in C3H Mice Following the Ingestion of Pollenized Food." An experiment is described in which bee-gathered pollen, supplied by the Division of Bee Culture, was added to the food of mice, to repeat an earlier test wherein such treatment had resulted in an apparent delay in the development of mammary tumors.

Three series of litter-mate mice were used. The first series was fed only unpollinated food, the second series was given an overdose of pollen which in the earlier test had brought about no delay, and the third series was given a milder dose of pollen, which previously had delayed tumor development. In the first series, tumors appeared at an average of 31.3 weeks and tumor incidence was 100%. In the second series, tumors developed at 32.4 weeks, three mice being tumor-free at the end of the tests. In the third series the average was 41.1 weeks, a delay of 9.8 weeks. Seven mice in this series were tumor-free at 56 to 62 weeks of age when the tests ended.

These results indicate that the development of mammary tumors in the C3H mice can be influenced by pollen in food, based on the assumption that pollen contains an anticarcinogenic principle.

Honey For Care

In New York, CARE, that excellent organization which handles gift packages of supplies for Europeans in need, and through which many readers have sent packages for relief, has advertised recently for bids on a considerable quantity of honey in one-pound, solder-sealed tins.



Two colonies of Reaveley strain with their seventh super in W. B. C. hives in England. John Reaveley worked years to get a strain suitable for his part of Yorkshire. They have been further improved by Albert Parkinson of the Harrogate Association. Tested against other well developed strains the Reaveley outproduced all competitors. Estimated crop from test colonies showed a surplus of 180-200 lbs. per colony.

E. Tinsdill, England.



Spanish needles along the Cooper River, Camden, New Jersey. All mid-western river lands used to show an equal sight. Drainage has almost wiped this fall flower out in some areas. (Photo by Paul Hadley).



News and Views (Caterpillar Tractor, Peoria, Ill.) through Lloyd Ravenscraft (Caterpillar Bee Club) sends this picture of the elder Rocke, father of Rocke brothers, Eureka, Ill., packing their own honey.

Discussion

What can we do to improve our bee pasture? Here are some good, practical ideas from beekeepers interested in this important question, which ties beekeeping in with pollination and conservation.

We can attack the general problem of improving our pasture in at least two ways:

1. Protect, where possible, our present bee pasturage.

2. Contact organizations and people who greatly influence or control vast acreages of unused and public land in America.

Individual beekeepers or their organizations should do something to prevent indiscriminate weed control programs. Some railroads, road departments and farmers practice selective weed killing; others use little discretion and kill all unwanted plants. For example, where there is a growth of sweet clover alongside the railroad adjoining Canadian thistle, they often spray or burn both plants. If in every region in America well-informed persons would influence these groups, it would help to preserve the plants important for beekeeping. The local and district weed control authorities could be extremely influential in safeguarding our bee plants.

Well-informed highway and railroad personnel could greatly stabilize the bee forage in America by utilizing nectar and pollen plants as food and cover for game, preventing soil erosion, increasing soil fertility and beautification. With the emphasis on **bees for balanced agriculture**, now is the time to request support from these groups. Do not depend on your beekeeping neighbor to do this! It depends upon **your immediate action** through your local, state or national beekeeping organizations or all of them combined.

Herman F. Menke, Washington.

All beekeepers who live in areas where the soil is not acid, can improve their bee pasture by sowing sweet clover seed along the roadsides and on other waste land. When sweet clover goes to seed in the fall, I strip off the seed from both the yellow and white blossoms and mix it. Then I scatter it in late fall or early spring so that the freezing and thawing of the ground will cover it.

In rainy seasons it is a good idea to scatter white clover seed in the pastures. In dry seasons it would be useless, because white clover needs a lot of moisture.

If a beekeeper has some land, he can use it to produce seed from alfalfa, alsike, or sweet clover. He will have pasture for his bees and ample pollination for his clover field. By harvesting and selling the seed, he can supplement his income. In the future, many beekeepers will find it profitable to grow legumes for seed.

Paul Ekblad, Wisconsin.

At one time sweet clover was unknown—now it is an important honey plant. Other plants would become important honey sources if they were introduced to our bee ranges.

I have tried a good many seeds of honey plants from Pellett Gardens. All do not prove out—some fail to grow and some fail to attract the bees. However, I have found a few that hold promise of becoming good honey plants. One of these is the meadow sage. It grows well from seed and should be a good plant for roadside bee pasture as it does not grow very tall.

Purple loosestrife grows well—the seed develops best on wet land. My best stand of loosestrife was sown on top of standing water. As the water seeped into the ground it left the seed in a bed of mud. A fast and sure way of increasing loosestrife is to cut stems from the mother plant, which will take root in water or wet earth. I plant many cuttings by merely sticking them in the ground during the rainy season. Loosestrife may make a good honey plant once it is widely scattered.

Anise-hyssop has not been visited by my bees. However, there may be years when it will yield, as clover does not yield every year. Hyssop may be increased by pulling single stems away from the old clump. Clasp the stem close to the ground and pull up a small root or semi-root.

This will grow and the new clumps will scatter seed.

There is much we can do to improve our bee pasture, but it is more than a one or two year job. All beekeepers should help. Plants that grow and yield nectar in one place may fail in another spot. That is why it is important to try all plants out in each beekeeper's locality.

Louis F. Cox, Missouri.

In improving our bee pasture the first thing beekeepers must do is furnish the bees with plants which are raised for seed and must be pollinized. As the beekeeper usually does not have the land to raise crops for seed (such as clover, alfalfa and some grasses) he should provide the man who has seed land with bees. His bees should be kept in good shape so that he can give good pollination service to seed production. It is well known that bees make a lot more seed to the acre than when the crops are without bees. If the bee man does not furnish bees to the man with seed land the seed crop is not as good.

A. A. Lyons, California.

Bee pasture can be improved all over the United States if more intensive study is made of legumes exactly suited to the soils and farm practice of each community. Alfalfa may be just right in one place but much too difficult in another. A farmer is not going to raise crops for the beekeeper but he will raise crops that greatly benefit the beekeeper if he can be shown that it will make him a greater profit. Today's great variety of good honey plants offers a great chance to find just the one or the several that will fit farming needs in your community.

Robert M. Mead, Vermont.

Every fall I buy and sow some sweet clover seed along the roads wherever there is none growing. A (Please turn to page 453)

Next Discussion

SHOULD QUEEN EXCLUDERS BE USED WITH TEN-FRAME EQUIPMENT IN EXTRACTED HONEY PRODUCTION? Following this subject, we will consider a question sent in by Robert M. Mead, of Vermont: WHAT CONTRIBUTED MOST TO YOUR SUCCESS AS A BEEKEEPER: A STRAIN OF BEES? SPECIAL MANIPULATION? SPECIAL EQUIPMENT? LOCATION? ETC. This is a very thought-provoking question and the answers will provide one of our most interesting discussions. Send your ideas in now while you're thinking about it!





(Left) Mrs. J. H. Davis—Beekeeping enthusiast.
(Right) Mrs. Davis feeding her bees in the back yard of her home in Little Rock.

(Below) In the garden of her home, Mrs. Davis watches bees bring in pollen from daffodils and early blooming shrubs.



The Cover Picture

Rea H. Davis

Beekeeping Enthusiast



REA HOWELL DAVIS, a native of Arkansas, was born in Oden, in the "Lum and Abner" hill section of the state. She easily understands why the story has been told of the utter astonishment of some visitors who, when being shown through Heaven, came upon a group of people in chains. When questioned, the guide explained that these people were from Arkansas, it was springtime there, and they all wanted to go back! She believes that anyone, after driving through the Ouachitas and Ozarks when the redbuds and dogwoods are in bloom, to say nothing of the apple and cherry blossoms, can understand why the story was circulated.

After college and her marriage to James H. Davis, she taught with her husband in the public schools—nursery, primary, and high school grades. During the following years while Mr. Davis served as superintendent of schools and studied law, their three sons were born. Mrs.

Davis found time from her household duties during this period to help her husband with his law studies, and to carry on activities in connection with teaching and adult education. Later on she was employed by a foundation whose purpose was to build up the schools of the state of Arkansas by working through the P. T. A. This work was carried on until 1939.

From this time on, Mrs. Davis took an active part in beekeeping, which had always interested her. She began working in the apiaries with her husband, who is now State Bee Inspector of Arkansas. Her first bees were acquired one warm day in May several years ago, when she discovered a swarm in the wall of her house. Those bees were hived, and since that time two or three hives are always kept in the garden close to her kitchen window. She enjoys experimenting with them, and producing and marketing the honey. Mrs. Davis believes in sulfa treatment in spring and fall feeding of her colonies, and is experimenting

this year in the production of comb honey.

In 1947, Rea Davis was made secretary of the State Apiary Board. The same year, she was elected secretary-treasurer of the Arkansas State Beekeepers' Association and has devoted her full time since to the interests of beekeepers of the state, planning programs for local and state meetings. She is in personal contact or correspondence with hundreds of Arkansas beekeepers and has endeared herself to them and their families all over the state.

Recently she has lectured on honey

and its uses to business and professional clubs in the vicinity of Little Rock. For demonstrations she takes samples of honey (cross vine, Spanish needle, vetch, and clover) and explains why honeys vary in color and flavor, how nectar is gathered and honey made. Honey recipes are given out and the best uses of honey in cooking are discussed.

Besides beekeeping, Rea Davis' many other interests include gardening, church and club work, an interest in government and politics, reading, and an enthusiasm for baseball and basketball shared with her sons.

The welfare of her children has always been of paramount importance to her.

To know James H. Davis, State Inspector, to enjoy his enthusiasm and humor, and to explore his fine philosophy of life, leads to a single conclusion: A lovely wife and mother of his children has had immeasurable influence. The fine work that he is doing in Arkansas further reflects the help and interest of his wife. Mr. Davis gladly admits that his wife Rea is the real motivating influence and certainly the boss of the Apiary Inspector of Arkansas.



One Step Towards Sales Modernization Skyrockets Retail Buying

When Land O'Lakes canny H. L. Eckdahl sealed his table honey in decorated tumblers customers carried home close to a million in a short time. The sample we have is decorated with a cartoon story of a queen bee in front of a straw hive bossing workers in an attack

on little bears who are stealing honey. This particular illustration has a special appeal to children and as beverage glasses they continue to advertise honey in the home. This picture (above) is appearing in the Food Field Reporter, Food Packer, Modern Packaging, Glass Packer, and Packaging Parade.

American Honey Institute

If every beekeeper could have the chance to sit down at a desk here at the Institute and open a day's mail, he would know what we mean when we say that the Institute is a fascinating place to work!

For just one day's mail brings letters from intriguing lands thousands of miles away, and from folks who live just around the corner. It brings some letters full of pathos, and some full of humor. It brings some letters from the very young, and from the very old. It brings questions on health, on business conditions, on family life, on personal problems.

What is most exciting, however, is to realize that all these letters, as varied as they may be, center around our good product, honey!

Let's put the Institute's mailbag in your hands, a beekeeper's hands, for just one day. These letters are just a sample of what you would read:

A WRITER for a metropolitan newspaper writes to ask you if you have any ideas for feature stories that would be of advantage to the honey industry and at the same time be interesting to the newspaper reader.

You, of course, can think of many possibilities for a good honey promotion story. So you send them off in the return mail, and then wait to see the results of your suggestions in newsprint.

A HOMEMAKER SUFFERING FROM SINUS TROUBLE wants to know about recipes that use only honey as a sweetening agent. She says, "I have substituted honey for sugar practically entirely and it certainly has helped the sinus."

A COUNTY FAIR EXHIBITOR writes, "... We are wondering what you may have available to show the purposes to which honey may be used to best advantage, or what type of display advertising you may have to interest people in the purchase of honey. We would appreciate any suggestions you may have for such a display."

Off in the return mail goes your list of suggestions, plus an Institute order blank for the literature, honey posters, and streamers that work up so well into an exhibit.

A BEEKEEPER from the midwest encloses a check for literature and

**Commercial State Bank Building,
Madison 3, Wisconsin**

then asks, "I would like to know what I, as a producer, should get for a five-pound, three-pound, and one-pound jar of honey."

This you probably find a little bit hard to answer. For who can say what the producer's return for his honey should be when markets vary so much! You have the literature sent, and answer his letter with the current price quotations on honey in your section of the country.

A CHAIN STORE REPRESENTATIVE from New York wants information on the American Honey Institute itself—its size, its membership, its activities.

You answer the letter, being careful to give only that information that would be of use to him.

A HOUSEWIFE from an eastern state who read Donald Culross Peattie's article, "The Golden Wonder of Honey," wants to know if honey really will "help babies retain calcium and grow stronger limbs and better teeth."

She says, "Our daughter, age 2, is a strong healthy child, but has inherited a disease 'fragilitas ossium' which among other things gives her very brittle bones. Could you tell us if honey has ever been used in this connection?"

Your reply is carefully worded so that your letter will not seem to possess misleading and unfounded statements on honey. But you tell her of the research that has been done on honey, and the results that seem to show that honey helps retain calcium in the infant and thereby makes bones grow strong.

A BEEKEEPER'S WIFE sends her favorite recipe for honey salad dressing and wants to know if you can improve upon it for her.

You thank her for the recipe, and add suggestions of your own to help her make a better dressing.

A MEMBER OF THE INSTITUTE is having difficulty collecting a remittance for honey he has sold to a firm. He asks the Institute to call this matter to the firm's attention.

A NEWCOMER IN THE BEE BUSINESS writes, "I have just started beekeeping and am in need of advice and experience. I read

that you issued bulletins, circulars, and periodicals, and would appreciate it very much if you could give me some advice . . ."

You refer him to men who have been in the beekeeping business for a long time and who could help him get a good start. You also send him the price list of the literature.

A WESTERN BEEKEEPER wonders where his '48 crop is going to be sold and writes to the Institute to find a buyer. "I have small quantities and not a carload . . . Could you put me in contact with buyers so I might move and sell this supply before my 1949 crop comes in."

AN AMERICAN CONSUMER has this to say about honey: "I am seeking information about comb honey . . . I have been a victim of low blood pressure for some years—Not until last fall when I visited up in Virginia near the Roanokes and ate some honey in the comb did my blood pressure go over 113.

"I brought back three jars of it and when I arrived home, my blood pressure was the highest in years. When I ran out of honey my blood pressure went down again . . . What I wish to know, is there any virtue in the comb and have you any such experience with honey as a blood builder"

Once again you tell him the scientific facts, and remark that you hope he finds honey the answer to his trouble.

THE DIRECTOR OF A RESEARCH ADVISORY SERVICE writes this thank you note for help we have given him: "We are very appreciative of your helpfulness Such assistance as you have given us is often the means of finding the answer . . ."

A LITTLE GIRL NAMED MARY ANN from Indiana writes: "I would like a set of leaflets containing honey recipes. Send them to me as soon as you can or the honey will be all gone!"

AN APICULTURIST IN HAWAII sends his membership dues to the Institute and tells a fascinating tale of Hawaiian beekeeping. Says he, "Please feel free to bill us every year as your promotion will mean our future success."

THE SUPERVISOR OF THE DEPARTMENT OF PUBLIC INSTRUCTION in a western state says: "Thank

you so much for the copies of the large quantity recipes you recently sent us. We would like to have your permission to mimeograph some of these recipes so that we may include them in our monthly school bulletin."

Of course, you answer, go right ahead and distribute them. The

more school lunch people that know how to use honey, the better!

These letters came in addition to the hundreds of daily requests for literature and free honey recipes. These requests show how eager the housewife is to use honey. Just as she uses good shortening and milk, she wants good honey in her baking.

And she wants good recipes to show her the "hows" and "whys" of honey baking.

You answer all the letters, drop them in the mailbox, and return to your other work, confident that the next mail will be just as interesting.



Honey Lemon Layer Cake

½ cup shortening
1 cup honey
2 eggs
2 cups sifted cake flour
¾ teaspoon soda
½ teaspoon salt
2 tablespoons lemon juice
¼ cup milk

Cream shortening with honey until fluffy. Add eggs one at a time and beat well after each addition.

Sift together the flour, soda and salt.

Add lemon juice to milk.

Combine sifted dry ingredients to creamed mixture alternately with lemon soured milk. Pour into 2 greased 8-inch layer cake pans. Bake

20-30 minutes in a moderate oven (350°F.).

Honey Lemon Cream Filling

1 egg yolk
4 tablespoons sugar
2 tablespoons cornstarch
¼ cup honey
¼ cup water
¼ cup lemon juice
¼ teaspoon grated lemon peel
1 tablespoon butter

Beat egg yolk in top of double boiler. Combine sugar and cornstarch and mix into egg yolk and add remaining ingredients. Cook over boiling water until mixture is thickened, about 15 minutes, stirring frequently. Cool. Yield: Filling for 2 (8-inch) layers.

Seven Minute Honey Frosting

¼ cup honey
¾ cup sugar
1 egg white
3 tablespoons lemon juice
Dash of salt
¼ teaspoon grated lemon peel

Combine honey, sugar, egg white, lemon juice and salt in top part of double boiler. Place over boiling water and beat with whirl-type beater about 7 minutes, or until frosting thickens and holds its shape when dropped from beater. Remove from heat and add grated lemon peel. Continue beating until thick enough to spread. Yield: Frosting for 2 (8-inch) layers.

All Around the Bee Yard

So long since we have had a honey crop here that we find we have forgotten how to operate. Can't find equipment needed for honey removal. Stored it away in the shed somewhere and some guy piled other stuff on top of it. Can't make the extracting outfit work right although we devised it and set it up and it used to work fine.

In other words we have gone through a period of general let-down all along the line; been discouraged; been ready to quit. Sort of a "don't give a damn" spirit that puts many a beekeeper out of business just before the "golden age."

Surprising how fast the industry moves in new directions, under pressure. For many years, bees have made fruit for fruit growers; cucumbers for cuke growers; cranberries for the bog men . . . and yet few farmers knew about it and few cared; few beekeepers were involved in it and few wanted to be.

Then came the day when clover seed hit rock production bottom and beekeepers hit the skids worse than ever before. One needed the other. Now farmers seek bees and beekeepers seek to add thereby to their diminished income. This year some daring high-venture bee men will actually get into the big money, not from honey, but from pollinating bees, on big legume acres.

Now it becomes clear that the farmer won't pay much for the bees he needs but he is willing to share results. He doesn't know the technique involved in pollination so he is more than willing to let the beekeeper take over. The successful pollination experts now spray and harvest for the farmer and take a share of the crop in pay; the successful fruit pollination experts, furnish the right pollen through dispensers, boss the spray program, and the growers are more than willing.

Sounds as though we might have some pollination ventures of our own. Yes, we have, but we are slow at it compared to those who have done a real job of lining up farmers on a yearly customer basis. It's so new that there are many details to learn and much selling to do. It's seldom

G. H. Cale

easy to convince a grower to venture a dime unless you take the risks with him—no results, no pay—good results, a crop share. After a number of years of trial and error the beekeeper may come out with a new program that involves the pollination of an orchard in spring, securing a honey crop in early summer, a legume pollination job in late summer, and a fall honey crop to top off the season.

One of our troubles in honey marketing is that we have remained in the peddling days, while the food industry has moved into the streamlined sphere of super-marketing. Have you ever seen honey being lined up for sale in keeping with most other foods? If you have, likely you have found a successful merchandizer, who may not own a single colony of bees.

Even our co-ops, often looked upon as the future saviors of marketing, pin their distribution and their competition on the pound jar, the poorest honey package on the market. Few have enough imagination to put the distribution of honey into a paying bracket. When it comes to market research, there is almost nothing being done. It took Gordan Crump at St. Louis to show us how related food producers have moved sales into the multi-million class by sound imagination, spirited approaches, and far-seeing market research. There was no problem confronting these other groups that was a bit different than the ones that confront us.

The strange fact about using imagination in the marketing is that everyday competition soon takes a back seat. You no longer find the product involved being hawked down the street by peddlers whose only resources in selling is to holler "I'll sell mine for less."

Never went through a crop season when nectar was so thin. It rained frequently, the bees worked themselves down to small populations, queens wore out so half of them needed replacement; yet the honey was low in volume for the effort. Some extracted honey from well-

sealed combs, showed a hydrometer reading 18.9, three tenths over the legal maximum for water content.

Farrar has suggested that supers of such honey be placed under the brood nests where the bees tend to move it back up again and restore it. That might help, but it is a slow task when several supers to the colony are involved. We have tried extracting and feeding the thin honey back to the bees. They restore it. It is then much denser, and some volume is lost, but it works.

Speaking of the queens giving out, many colonies have replaced their own queens through supersedure. Some beekeepers rely on supersedure for all their requeening. Admittedly it is a cheap way to get queens. If it were the only way available, there would be rapid stock deterioration, in our opinion. And almost surely entire reliance on supersedure would make it necessary to provide more replacements by division or by packages, adding materially to costs.

There are figures to show that supersedure in the crop period cuts the crop materially. As far as we are concerned there is no substitute for systematic requeening, with high-producing, disease-resistant stock, to keep down costs and up production.

When costs are now figured, we find that sulfa and resistant stock have reduced our overhead by about 35 per cent. The most exciting item in production figures today is labor. Even if you do your work with bees yourself, when that work is done in hours when other pay is sacrificed, the amount lost must enter production cost, or you are just kidding yourself. So, to cross out labor, you must have no more bees than you can run in spare time by yourself. Is that what beekeeping is coming to?

Many beekeepers have solved the cost problem in just this way and are getting along well, and making money, especially when they sell their own honey in an efficient manner.

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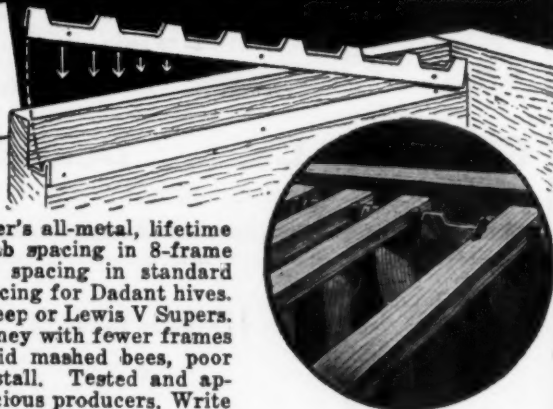
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Young 3-Banded Italians, guaranteed purely mated

Queens shipped daily until November 10th.

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Check your hives this summer and fall and requeen with stock with universal appeal. We recommend the ASHURST mailing cage, but due to cost, add five cents extra per queen.

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American Bee Journal

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Here it is, the tool you have all been looking for: the frame spacer that will do your spacing quickly and accurately. Whether you have to space one super or a thousand, you need only one pair of the new HAARMANN'S FRAMESPACER. It is easy to use, easy on the bees and will last you a lifetime.



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ITALIAN QUEENS

75c EACH, 10 OR MORE 85c EACH

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Our headquarters have been moved from Live Oak, California to Rio Oso, California. We will ship package bees and queens from here next season—we have better shipping facilities here. There will be no difference in express charges as the express office is on the same railroad, only a few miles from Live Oak.

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Bees and Queens

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"I LIKE DR QUEENS BECAUSE THEIR DEPENDABILITY ASSURES PROFIT BY COLONY BUILD UP AND INSURES AGAINST COLONY LOSS BY QUEEN LOSS AT SUPERSEDURE TIME."

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Three-Banded Italians

Plenty good queens from our famous Better Bred Strains that have proved their merit for years. Replace all old and failing queens and watch them build up fast.

QUEENS, 60c each, lots of 10, 50c each—Prompt delivery.

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CAUCASIAN QUEENS—Finest of quality. Good workers and very gentle. 1 to 25, \$1.00 each; 25 up, 80c each. Tested, \$2.00. Black River Apiaries, Elliott Curtis, Mgr., Currie, North Carolina.

GOLDEN ITALIAN QUEENS—Finest quality. Select queens. Untested, 1 to 25, \$1.00 each, 25 up, 80c. Tested \$2.00. Health Certificate with every order. Carolina Bee Farm, W. O. Curtis, Mgr., Graham, North Carolina.

CAUCASIAN QUEENS—1-9, \$1.00 each; 10-40, 90c each; 50 and over, 75c each. Howard E. Crom, R. No. 1, Ripon, Calif.

BREWER'S LINE BRED Caucasian queens. 1-99, \$1.00; 100 and up, 75c. Member ABBA. Brewer Brothers Apiaries, 3616 Caucasian Circle, Tampa 9, Florida.

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BRIGHT YELLOW and three band queens. Graydon Bros., Rt. 2, Greenville, Ala.

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43 COLONIES (Caucasians), equipment for 60 colonies. Disease free and lots of honey for winter. Everything, tanks and extractor, \$600. Tom Beddoes, 318 Alliance Ave., Rockford, Illinois.

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CLOSING OUT at bargain, 3 and 5 pound honey jars. H. B. Steele, 632 Wyoming Ave., Billings, Montana.

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Copy for this department must reach us not later than the tenth of each month preceding date of issue. If intended for classified department it should be so stated when advertisement is sent.

Rate of Classified advertising—13 cents for each word, letter, figure or initial, including the name and address. Minimum ad, ten words.

As a measure of precaution to our readers we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on comb must guarantee them free from disease or certificate of inspection from authorized inspector. The conditions should be stated to insure that buyer is fully informed.

1 to 40 colonies with crop. Disease free. Phone 400 or 54. Paul LaPlant, Anoka, Minnesota.

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WANTED—Extracted and bulk comb honey. Clover Bloom Honey Company, Minco, Oklahoma.

COMB HONEY WANTED—Section and cut-comb. Advise grade, quantity and how packed. F. H. Hauck, P. O. Box 84, Kew Gardens, N. Y. Bank reference furnished on request.

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HONEY AND WAX WANTED. Mail sample. Advise quantity. Bryant & Sawyer, 2425 Hunter St., Los Angeles, Calif.

WANTED—Honey and wax—any quantity. Send samples and prices. Alexander Company, 819 Reynolds Road, Toledo 7, Ohio.

WANTED—Extracted honey, white or light amber, in 60's. State price in first letter. Ed. Heldt, 1004 W. Washington St., Bloomington, Illinois.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

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FLORIDA WHITE TUPELO, the world's finest honey—pure orange blossom honey—white clover, and buckwheat honey shipped in barrels, 60-pound tins, gallon cans, or in glass by the case. Pure maple syrup. Alexander Company, 819 Reynolds Road, Toledo Ohio.

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WANTED—A small place whose owner wishes to retire. Full particulars, please. Box 28, care American Bee Journal.

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HONEYFLOW BEE FEEDER—all metal, like a frame, fits any hive. Holds generous supply of syrup, float for bees. Write for name of dealer, \$2.50 each. W. O. Goebel, Knoxville, Iowa.

OUR FREE BEE SUPPLY CATALOGUE. Lists double boilers, special motors, blowers, etc., not listed by others. We manufacture bee hives, wired and plain foundation, tanks and extractors, etc. Quick delivery from stock. Walter Kelley Co., Paducah, Kentucky.

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CLEAN UP AFB with sulfa. 25 tablets 50c; 50, \$1.00; 100, \$1.50; 1,000, \$6.00. Free Circular, quick shipment. WALTER T. KELLEY CO., PADUCAH, KENTUCKY.

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FIND wild bee-trees with my outfit.
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THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents, stamps. Membership of the Club including subscription to the paper 10/6. The Apis Club, The Way's End, Foxton, England.

A LIVING FROM BEES by Frank C. Pellett. His new 1946 book for all beekeepers. Combining results of many years' experience with latest developments and improvements in beekeeping. A complete guide. 310 pages. Cloth. \$2.50

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Carloads and less than carloads. Mail sample and best prices in all grades.

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Gives the latest news and views of the rabbit world—an illustrated monthly magazine of general and educational features. 1 year, \$1.00; 3 years, \$2.00; sample 15c.

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Queens Replace that falling queen now with our fine 3-Banded Italian Queens noted for their productiveness, hardiness and vitality. A strain developed through years of segregation and selective line breeding. 75c each.

B. J. Bordelon Apiaries
MOREAUVILLE, LOUISIANA

Pollination Conference

(Continued from page 433)

the continuance of export sales to other countries No improved cultural practices such as additional fertilizers, irrigation, insect or disease control measures will replace poor or inadequate pollination. Seed cannot be produced with most crops without pollination. Pollination is fundamental to high yields even though often the producers blame other things for low yields."

Mr. E. Braun, Agriculture Scientist in Apiculture, Manitoba, Canada, presented a paper on "Canadian Pollination and Nectar Secretion Studies." He concluded his talk as follows: "In summation, it is evident that in Canada we face the same pollination problems in alfalfa, alsike, sweet clover, or in the legumes as you do in the U. S. A. Our fruit pollination problems in the Annapolis Valley of Nova Scotia and the Okanogan Valley in B. C. are as

pressing as those in Maryland or Washington State. The main difficulty appears to be the lack of reliable scientific information on the nectar concentration of commercially grown forage crops, flowers or fruits and the relationship of the honey bee and its relative value for pollination purposes."

The Soil Conservation Service was represented by Dr. R. N. Bond, Regional Biologist, Portland, Oregon. He stated: "It seems to us that the best thing we can do is to get farmers and beekeepers together to their mutual advantage. We are undertaking to inform the members of the soil conservation districts that if they want to raise legume seed crops (or a lot of other crops) they need bees, and that they will be cash money ahead if they hire enough bees for a good job of pollination."

Wednesday afternoon, Mr. Joseph F. Pechanec, of the Pacific Northwest Forest and Range Experiment Station, aroused considerable interest and discussion with his address on "The Place of Nectar and Pollen Plants in the Management of National Forests." A summation in his words follows:

"In summary it can be fairly said then that the place of management of national forest lands in the maintenance and increase in abundance of valuable nectar and pollen plants can be three-fold: 1. It can make greater use of nectar and pollen plants in range reseeding—if adapted species can be found. 2. It can increase in abundance native nectar and pollen plants through better grazing management of livestock and big game. 3. It can, through protection and improvement of watershed conditions, safeguard water supplies for irrigation and thereby the major agricultural base upon which the western beekeeping industry is founded."

Mr. Norman P. Knott, Washington State Dept. of Game, presented the topic "Wildlife and Its Dependence on Seed Production," pointing out that seed production provides cover and food for wildlife, and also provides a source of pollen and nectar.

The Great Northern Railroads Agriculture Development Agent, Mr. E. J. Thomas, gave an entertaining talk. He also cracked the door, so to speak, to one of the most promising means to substantially increase the nectar and pollen plants in America. It is up to the beekeepers to encourage the railroads to establish a planting program on their land. This would (Please turn to page 452)

Previews of Coming Events



(Left to right) Robert Knutson, state president; John Long, state inspector; William Waterman, assistant state inspector; Mrs. Phyllis Huffman, American Honey Institute; Roy A. Grout, president, American Beekeeping Federation; M. J. Deyell, editor of *Gleanings in Bee Culture*.

Wisconsin Beekeepers Summer Meetings

The Wisconsin Beekeepers Association's two summer meetings this year were held at Janesville Municipal Park and Eau Claire Lakes County Park near Eau Claire on July 26-27.

Speakers at the meeting this year were: Mr. John Long, state inspector; his assistant Mr. Wm. Waterman; Mrs. Phyllis Huffman of the American Honey Institute; and H. J. Rahmlow, secretary of the Wisconsin Horticultural Society, who planned the meeting with the cooperation of the officers. From out of state came Mr. Roy Grout, president of the National Beekeepers Federation, Hamilton, Illinois, and Mr. M. J. Deyell, editor of *Gleanings in Bee Culture*, Medina, Ohio. Mr. Ivan Whiting, president of the Southern District of the association presided at Janesville and Mr. Robert Knutson, state president presided at Eau Claire Lakes.

At both meetings beekeepers voted against a proposal to ask the legislature to enact a law prohibiting the importation of bees on combs into the state. However, they voted unanimously that those who bring in bees from outside the state must have them inspected within ten days

after arrival, pay for the cost of inspection, and notify the state inspector of their intended location.

He Got the Bear

Pres. Robert Knutson of Ladysmith stated at the Eau Claire meeting that he has trouble keeping bears out of his apiary and that they do considerable damage once they get in. He said he was eating lunch one noon in an outyard when a bear walked in. He got the bear. His nephew Chester, decided to watch for another bear which was molesting colonies and slept in a truck in the outyard overnight. He heard a noise, looked out the window of the truck and found himself looking into the face of a bear. In the future he prefers to sleep elsewhere.

Mrs. Phyllis Huffman, assistant to Mrs. Grace of the American Honey Institute told an interesting story about the work of the institute. She said, "The gravy train has stopped, we must now get out and walk." She showed a roll of paper on which clippings from newspapers and magazines had been pasted which reached across the entire meeting hall. It was the result of promotional work by the institute on "Honey for Breakfast Week" last April. Mrs. Huffman said, "If you want the

American Honey Institute to do still more work you have only to say so by your contributions."

H. J. Rahmlow, Madison, Wis.

Southern Conference—Bee Breeders Joint Meeting In November

The Southern States Beekeepers' Federation is meeting jointly in Montgomery, Alabama, November 17 and 18.

A more complete program will be ready for announcement in the October number.

J. F. McVay—E. C. Hanson.

Virginia Short Course, Blacksburg, September 12-13.

The Virginia Beekeepers will hold a Beekeeping Short Course at Blacksburg on September 12-13. All beekeepers are invited to attend. It will be held at the College, and all inquiries should be addressed to Mr. J. O. Rowell, Extension Entomologist, Blacksburg. The Virginia State Beekeepers Association will hold its regular winter meeting during this Short Course on the evening of September 12, at 7:30 P. M. Plan to attend both the Short Course and the meeting.

Henry W. Weatherford, Sec'y.

New Jersey Field Meeting, Beemerville, September 17

There will be an all-day field meeting of the New Jersey Beekeepers' Association, Saturday, September 17, 1949, at the Grange Hall in Beemerville, Sussex County, New Jersey. The apiary of Mr. J. Woodward will be visited. There will be a trip to the Dairy Research Center where the experimental plantings of clover and other legumes will be explained by the director, Dr. Claude Eby.

M. H. Stricker, Sec'y.

Westchester County, N. Y., Bronx September 18.

The Westchester County Beekeepers' Association will hold a joint picnic-lunch meeting with the Bronx and North Jersey Beekeepers' Associations, beginning at 10:00 A. M., Sunday, September 18, at the home of Mr. Henry Kroger, 3661 Eden Terrace, Bronx, 66, N. Y. (Off Boston Post Road West). There will be speakers and field demonstrations.

B. F. Miller, Publicity.

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old comb shipments to be ren-
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duction. Drones for mating come from
similar colonies. Requeen this fall with my
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water white honey on bees or queens to
ship next spring when you want them.

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Are reared right, priced right and
are guaranteed to please. Three-
Band Italians only. 25 years' experi-
ence is our guarantee to you of good
queens. Summer prices: 1 to 5 queens
70c each; 6 to 10, 65c each; 11 to 50,
50c each. No disease.

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Leather Italians • Caucasians

QUEENS — Any Number,
50c each, **GUARANTEED**

Rich's All Italian Hybrid Disease Resistant
Queens—a New Type of Bee
NORTHERN BRED ALL ITALIAN

This is a cross of pure Italian bees to produce a strong,
gentle bee that is superior in vigor and has positive re-
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This stock is produced and maintained by northern honey
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1-24	\$1.25	25-99	\$1.15
100-999	\$1.00	1000 or more	95c

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1-24	25-99	100 up
\$1.00 each	\$.85 each	\$.75 each

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Pollination Conference

(Continued from page 449)

provide bee pasturage, prevent soil erosion and furnish food and cover for small animals and game birds.

On Thursday morning, Sidney Walsh, Washington State Department of Highways, discussed the use of roadsides for increasing the bee flora. He stated, "The highways of the state of Washington provide an immense network of roadside area affording bee pasture in all parts of the state from the highest alpine areas to the lowlands along the Pacific. There are approximately 244,000 acres of publicly owned bee pasture in the road system within the state. There are also many roadside turnouts and parking areas under cultivation, not including many state parks of vast acreage."

Dr. J. E. Eckert, University of California, speaking on "Bee Poisoning in Relation to Pollination," concluded as follows:

"1. The elimination of the arsenicals from the insect control programs, has made a definite improvement in the relationship of chemicals for insect control and bees for pollinating services. The substitution of less injurious substances than the arsenicals has brought about this favorable change. 2. More research and educational work is required to demonstrate the beneficial relationship of bees and of beekeeping in our agricultural economy. 3. Since the honey bee is the most important of all pollinating insects and since most of our agricultural crops are improved by the pollinating services of the honey bee, it will be a direct benefit to agriculture to maintain conditions which are beneficial to beekeeping in all of our agricultural areas. 4. The destruction of crops, livestock, and pollinators can be prevented to a practical extent by the improvement of materials and methods of application which will confine all toxic substances to the fields treated. 5. The proper timing of applications, in regard to the visitations of pollinating insects to the blossoms of treated plants, is a definite factor in preventing the destruction of pollinating insects. 6. The use of chemicals which are least injurious to beneficial insects is a contributing factor in the preservation of these insects. 7. It is of mutual interest to the grower and to the beekeeper to have an understanding concerning a working agreement for the use of bees for polli-

nation services, in order to prevent the destruction of bees through the misuse of chemicals in areas in which the bees are located. 8. The continued destruction of pollen and nectar producing plants along roads will ultimately reduce the effective population of pollinating insects unless a constructive practice of substituting pollen and nectar producing plants is inaugurated. 9. It is necessary for the grower to protect his crops from injurious pests, but chemical programs should include a consideration of the necessity for the protection of the pollinators which aid materially in crop production."

Frank C. Pellett, world authority on honey plants, was next on the program. He painted a very clear picture of agriculture during his grandfather's time and went on to illustrate the development of specialized agriculture. Our pollination problems, he said, should be solved by making it profitable for commercial beekeepers to supply their bees for pollination purposes. Due to the low income derived solely from honey and wax, pollination services must supplement the beekeeper's income. The increase of bees for pollination calls for more pasturage.

He discussed some of the possible plants which could be utilized and stated: "Roadside planting alone could stabilize the bee pasturage problem if it was done extensively. Since it takes considerable pressure and time for new ideas to take hold, we can't expect the problem of bee pasturage to be solved in a year or two. We must have plants that will fit into the varied needs of agriculture and still be important bee pasture. This may take many years of work and cooperative national projects. **The beekeeper holds the key to national prosperity.** A prosperous nation means prosperous agriculture, in turn this depends on crop rotation; legume seed supply is a very integral part, and bees are essential for this seed supply!"

The audience stood and gave Mr. Pellett a tremendous ovation.

Dr. Sam Edgecombe then read the recommendations made by the Honey and Pollen Plants Committee which were turned over to Glenn Jones for consideration by the American Beekeeping Federation and will be officially announced later.

Dr. H. W. Youngken, Director of the Drug Plant Gardens at the University of Washington, spoke on the close relationship between pharmacy and beekeeping.

He said that from experiments

conducted in the garden there is some indication that the commercially imported drug plants, belladonna, digitalis, and others, and the various condiment herbs are attractive to bees. Many of these plants lend themselves well in various climates for bee pastures. Most, when properly prepared for drug markets, are profitable for cultivation. Beekeepers could realize some return from such plants provided each wished to study the growth and preparation of them and engage in the proper collection for drug or spice markets. It is apparent that bee pollination is important in drug plant cultivation. In areas of drug plant harvest, whether from a wild or cultivated source, the problem of adequate bee life is therefore a major factor.

Among the most enjoyable features of the conference were the Frank C. Pellett Anniversary Banquet held the first evening, the colored movies and round table discussion enjoyed Wednesday night, the tour through the Garden of Medicinal Plants, and the delightful evening ride on a 100-foot cruiser out through Puget Sound, which was the final event.

Those responsible for the arrangements and program of the conference are to be highly commended for their tireless efforts. Excellent meeting facilities and fine hospitality were enjoyed on the University of Washington campus.

The conference was successful from the standpoint of those who attended, but of greater importance are the general results which we hope shall be obtained in the way of better cooperation and understanding of our industry in America today.

New Zealand Honey Prices

New Zealand honey prices are controlled at 10½ pence per pound (about 20c). In England the usual price is 3 shilling 6 pence (about 65c for a pound jar), though some beekeepers have gotten as high as \$1.50 a pound. There are no controls on honey there and sugar is still scarce. No wonder orders for individual books and subscriptions come in from the British Isles. There is still no restriction on the above, though the individual may have a hard time getting exchange.

Discussion

(Continued from page 438)

good kind to buy is the mixed yellow and white. I also have been getting the farmers to buy Hubam clover and sow it with their grain on irrigation and they plow it under in the fall for fertilizer. We all know how busy farmers are in the fall and most of them do not get it plowed until after the first or second hard freeze so the bees get to work it late. A friend of mine told me that his eight acres of sweet clover is providing abundant pasture for 25 head of cattle and as it is blooming constantly, it is providing pasture for my bees too. He says that the cattle prefer the field of sweet clover to another permanent pasture when offered a choice. I hope that more farmers will use sweet clover for pasture in this way.

Lloyd Kreklau, Montana.

* * * *

A beekeeper can improve his bee pasture by planting his own honey plants but most beekeepers are not owners of sufficient land to make this worth-while. Land could be rented, but a beekeeper with a thousand or more colonies does not have time to farm on the side. So we can help the pasture situation by getting the highway departments to plant nectar-yielding trees and shrubs along the roads for beautification, and by scattering legume seeds along roads and waste places ourselves.

There is, however, another chance that no beekeeper should overlook. This is the soil conservation program which is still in its infancy but is growing rapidly. The most vivid picture of conditions needing a soil conservation program was observed last year in north central Texas where I operated some bees. There the land has been "farmed to death" and in 1946 the soil conservation program began planting vetch and clover to build up the soil. Some wonderful results were obtained. Farmers have told me time and again that they should have started this program 25 years ago, and those that have used the soil build-up program for the last two years are firm believers in the planting of clover and vetch. Some farmers are still skeptical however.

Here the beekeeper can step in and not only help himself but help the farmer also. If every beekeeper would influence the farmer to plant legumes, the farmer would see the results so plainly that he would put in more legumes every year. In another section this county started

its first Hubam clover three years ago and this year there are over three thousand acres in clover. One farmer told me that he could make more money from clover seed than he could from his regular crop which he had been planting for years. Not only is he going to plant more acreage to clover next year, but he insists that there be plenty of bees on his clover. The bees were supplied and additional bees will be supplied as his acreage demands. Here is a case of perfect co-operation between the beekeeper and the farmer. In nearly every legume seed producing area farmers are beginning to realize the importance of bees to increase seed yields and the beekeeper can get good pasture in sufficient quantities to make it worth-while if he will help the cause along by a little missionary work.

Many newspapers and weeklies have a farm section where some good missionary material can be found. In north Texas last summer scarcely an issue of the Sunday paper came out which did not have a little article on results of increased yields of many farm crops following clover. I clipped these and made a scrapbook and now have a good reference to show to a skeptical farmer. Results were given for a variety of crops so you can find proof for almost any kind of crop a farmer may grow.

It is easy for the beekeeper to help his pasture situation along if he will do a little pushing. Do not push so hard that the farmer will think you are trying to tell him how to farm or that you know more about soil conservation than he does. A friendly suggestion will get the idea started many times.

E. E. Salge, Texas.

* * * *

The answer to improved bee pasture is largely one which the beekeeper must settle for himself. There is always some waste land which the beekeeper could put to work and receive ample returns.

When I moved to this locality, it was practically without sweet clover, so I invested about five dollars in sweet and Hubam clover seed and lightly dusted the ditches and low parts of the waste land with it. Last year, thanks to the improved pollination, the sweet clover began to come back. I had approximately one hundred pounds of honey for each colony of bees and hope to do even better this year.

The sooner the small beekeeper who keeps a home yard does some-

thing about his own bee pasture, the better off he will be. One of my friends in Minnesota has gone into sweet clover seed production on the side. He told me last summer that he expected to have four or five hundred dollars' worth of seed in addition to the profits (?) from his four hundred colonies. The trouble is that most of us hate to "cast our bread upon the waters" because it always looks like the wind is blowing the wrong way. We don't want to invest in seed because we think perhaps next fall's honey prices may be low or we might have a crop failure. But the best thing to do is to spend a little for seed and shrubs each year as an insurance that the crop will not be poor in the fall.

L. D. Klopfenstein, N. Dakota.

* * * *

The beekeeper can do very little to improve bee pasture as farm crop rotations are governed by prices and demand for farm products. So perhaps we should look from another angle: considering plants and trees which will furnish pollen and nectar enabling bees to **build up** to take advantage of the pasture available. Pussy willows planted along ditches, wet waste land, lawns, and hedge rows furnish an immense amount of pollen and nectar for build up before dandelion bloom. Short branches of pussy willows with three or four good leaf buds under ground and above ground usually take root and grow very fast if pushed into the ground early in the spring.

George Rehman, Ohio.

* * * *

A successful beekeeper must have a working knowledge of the nectar-secreting plants near his apiary. This can be learned by keeping record of the time such plants come into bloom. By recording this information each year, we can plan for the honeyflows and have the bees ready for the harvest.

Bee pasture can be improved by scattering sweet clover seed in waste corners. Basswood trees on side hills should never be cut as they prevent soil erosion and are a very important source of nectar. Here in Wisconsin we have a good clover and basswood flow followed by buckwheat flow, although buckwheat does not yield nectar everywhere. We beekeepers must be scientific and have a working knowledge of botany and entomology.

Julius Lysne, Wisconsin.

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Marketing the Honey Crop

(Continued from page 430)

the government's own figures is enormous, and for which the beekeeping fraternity is being paid now only in special areas and under special circumstances. This community gain may justifiably be charged to the community, but, except in so far as the situation may be modified by taking it into consideration, the more "self-help" we practice, the better. The individual beekeeper is not tied to what he can do for himself when working individually, but can annex a new field of possibility when he learns to co-operate with his fellows and manage the affairs of the co-operatives according to the principles of business efficiency.

Is this attitude, that we should limit what we seek the government to do for us, understandable? To me, it seems in keeping with our pioneer tradition, the individualistic, certainly not socialistic, may-the-best-man-win tradition that has so effectively contributed to making the North American a resourceful fellow, able to preserve the fundamental values of his civilization.

Saskatchewan, B. C.

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Crop and Market

1949 Crop

With the extreme amount of drought in the northeastern states, particularly Pennsylvania, New York and New England, the crop has been cut materially under that of a year ago, except for some reports in the more moist sections of Maine. The same conditions have applied to Ontario and Quebec, which report only about 50 per cent of the heavy 1948 crop.

Strangely enough, in Virginia and Maryland, they have had a marvelously large crop running from 150 to 200 per cent of the good crop of a year ago. Farther south, the crop is reduced in the Carolinas, although later indications in South Carolina are that part of the deficiency has been made up. Northern Georgia similarly is fairly well situated, but southern Georgia and northern Florida have not had a good crop. On the contrary, southern Florida has had very excellent crops running far ahead of 1948, but western Florida reports only mediocre results this year. In Alabama, Mississippi, Louisiana, the crop is as good as last year in southern sections, perhaps less in the northern sections and in Tennessee and Kentucky.

Arkansas will have about the equal of last year and similarly northern Louisiana and Oklahoma. East Texas will be ahead of last year's failure, southern and western sections not being any better.

In the North, Ohio reports from 25 per cent to 100 per cent of last year; Indiana probably better than last year. In Illinois, Iowa, Michigan, and Wisconsin, the failures last year have not been duplicated and there is from a fair to a heavy crop. Probably averages will range from 75 to 150 pounds per colony. As we reach the Missouri River boundary and go down into Missouri, conditions are poorer than last year, and similar reports come from Kansas, Nebraska and eastern Colorado. In the Red River Valley, and extending down into the Missouri River Valley conditions are not as good as last year's per colony averages and of course, everywhere, we must consider fewer colonies to gather the honey.

Montana, which had a heavy crop last year, has less than 50 per cent

M. G. Dadant

this year. Wyoming about the same, and the western slope of Colorado, and into the San Luis Valley about 75 to 80 per cent.

Washington reports good conditions, Oregon poor, and practically all of California report a lower average per colony than last year except some sections around Santa Barbara.

The western provinces of Canada will not have over 50 per cent of last year which was a big crop, and of course this year, many less bees. British Columbia is at least normal if not better.

Prospects

Most eastern sections are dry. However in the Carolinas and Virginia, conditions are about normal. This extends well over the South except in Texas and Oklahoma where conditions are poor. Arkansas is harried by cotton sprays, otherwise conditions are normal.

In Indiana, Illinois, and Iowa rains have been good, and fall prospects are excellent. This extends also up into Michigan and Wisconsin. As we proceed westward, prospects for a fall crop gradually taper off. In all other sections conditions are less than normal.

Prices Offered

The few prices which have been offered as yet extend all the way from 6½ to 10 cents for good white honey in jobbing lots, with one report of a Montana car of water white moving at 10¾ cents f.o.b. shipping point. Amber reports are from 5 to 6 cents in California and as high as 8, 9, and even 10 cents in some sections of the Southeast. As a general rule, the offers made so far, and the season is early, will run about 9 to 10 cents for white honey and from 7 to 8 cents for amber, with not too many offers being circulated. Buyers are probably waiting for the season and the market to settle.

Prices to Grocers

Again we have a wide range in prices to grocers. On the whole, how-

ever, we can lump the six 5-pound prices to grocers as running from \$4.50 to \$6.00, the price as usual running higher in the East and gradually lowering as we reach the mountain states and California. On the twenty-four 1-pound jars, prices similarly run from \$4.50 to \$6.50 with the bulk of the quotations at about \$4.80 for central western and eastern sections.

There has not been enough chunk honey produced in the southern areas to supply the trade. We find reports of twenty-four 1-pound jars in a jobbing way moving at \$7.00 per case and other prices in proportion. As a whole, the southern markets are holding up far better than the northern ones, and with more stability from the start. This probably is due to the fact that the crop is already harvested and the jobbers and grocers are placing their orders.

Retail Prices

Here again we have wide discrepancies, the prices running all the way from 25 cents to 40 cents on single 1-pound jars, and again progressively the higher prices in the East, the lower ones as we work farther west. We find suggested quotations on 5-pound pails at from 85 cents to \$1.50 with similar regional variations. On the whole, 5-pound pails are selling at about \$1.25 and 60-pound cans retail in the neighborhood of \$9.00 to \$10.00.

Summary

There is no doubt that the better crops in the Central West will partly make up for the deficiency in number of colonies throughout the whole United States.

However, in view of the short crop in some sections, particularly New York, California, Montana, etc., we doubt very much whether the full crop for the season of 1949 will run as high as in 1948, unless heavy fall crops materialize.

It is practically certain in the Canadian provinces that the total volume of production will be far under 1948. As a consequence of this and the money raised by the tax on cans, as well as the honey taken over by the Canadian government, there has been a decided stiffening in prices in the Canadian provinces.

Honey Wanted— Cars and less than cars. TOP PRICES
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Uncapping Machines

(Continued from page 429)

from the photographs, the cutters cut off the cappings in small particles. This is quite an advantage as such cappings drain out readily. I have a wire screen in the bottom of the uncapping tank and with overnight draining, the cappings contain only about one-half honey. These cappings can then be melted or handled by any system the beekeeper may use. It goes without saying, the uncappers operate best when honey is warm. Since extracting also requires warm temperature, the honey house should be heated if necessary.

One objection made to this type of machine has been that the cappings are chopped up so fine, they will not separate from the honey. This has not been true with me at all. It is true more wax goes with the honey through the extractor and requires some type of deep wire screen to take care of it. I simply have a large, bag-type strainer made of wire mosquito screen in the first large settling tank. When wax needs to be taken out, I simply drain the honey in the tank below the level of the screen and after sitting overnight, the drained cappings are easily removed. After settling and straining, we find the honey just about as clear as if a knife were used. There is, of course a difference in types of cutters, some do cut the cappings finer than others, but properly designed cutters make the cappings coarse enough for easy straining and settling.

The only trouble with these machines that I can think of, occurs at the start. Like all machinery, adjustments must be made to the machine itself so that it operates properly. Under certain conditions or with different types of equipment, changes may have to be made which at first aren't always easy. Then also, the beekeeper must adjust himself to the machine. He should be mechanically inclined so that he can see what changes must be made, and able to adjust the other line of operations to the uncapping machine. This all takes time, even in the best of conditions, but usually in two weeks things should straighten out so that one wonders how he ever got along without the machine.

It is certainly nothing a backlot beekeeper would need, but for over three or four hundred colonies, the uncapping machine will in a short time pay for itself in labor saved, and

during a heavy honeyflow will catch a lot of honey when supers must be extracted quickly to give the bees more room. Uncapping machines are finally here to stay and I think it is about time.

Vermont.

Florida Modifies Moving Regulations

The 1949 Florida legislature has modified its regulations relative to moving bees into the state. Bees on combs now can be moved in but only if regulations are adhered to.

Application for entry must first be made to the Plant Commissioner of the State Plant Board at Gainesville. With the application must be filed number of pieces of equipment to be moved, present location, and Florida destination.

The beekeeper must have valid certificate from the Chief Inspector of the state from which he is moving showing that the bees have been inspected and found clean for two years including one inspection 30 days before moving.

He must notify the Florida Inspector of the Plant Board ten days before moving; and must hold the shipment intact until Florida inspection is made. With all conditions satisfactory, permit will be issued. Finding of disease or failure to meet regulations may result in having the bees burned or a forced removal from the state.

Commissioner Brown makes the statement that on previous importations there was too much looseness in the issuing of certificates without due and careful examination.

For particulars address Commissioner Arthur C. Brown at Gainesville, Florida.

Will Weed Killing Chemicals Survive?

Concern has been expressed by subscribers over the general popularity of chemical weed killers. There is no doubt but that if they are used generally on the farm to destroy such weeds as Spanish needle, heartsease, aster, and other honey producing plants, it may have an unfortunate effect on the fall honey yield. Of greater importance will be the effect on winter stores and populations of young bees in colo-

nies going into winter quarters.

Perhaps we should be happy if we were relieved of selling a honey which does not have a ready market, but fall stores play an important part in wintering and building up the normal colony.

Little is known as yet of the possibility of future damage to plant life, including our legumes and grains, by the accumulation in the soil of toxic material as a result of repeated spraying with 2, 4-D or some similar killer. Farmers may find that these chemicals, though a boon at first application, may have an effect through chemical accumulation in the soil on future plant growth.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912 AND MARCH 3, 1933.
of American Bee Journal, published monthly at Hamilton, Illinois, September 1, 1949.

STATE OF ILLINOIS, } ss.
County of Hancock,

Before me, a notary public in and for the state and county aforesaid, personally appeared M. G. Dadant, who, having been duly sworn according to law, deposes and says that he is the business manager of the American Bee Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the name and addresses of the publishers, editors, and business managers are:

Publishers: American Bee Journal, Hamilton, Illinois.

Editors: G. H. Cale, Hamilton, Ill., F. C. Pellett, Hamilton, Ill., M. G. Dadant, Hamilton, Ill., R. A. Grout, Hamilton, Ill.

Business Manager, M. G. Dadant, Hamilton, Illinois.

2. That the owners are: Dadant & Sons, Inc., Hamilton, Ill.

3. That the known bondholders, mortgagees and other security holders owning or holding one per cent or more of the total amount of bonds, mortgages, or other securities are:

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4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears and upon the books of the company as trustees or in any other fiduciary relation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

(Signed) M. G. Dadant,
Business Manager American Bee Journal.
Sworn to and subscribed before me this 20th day of August, 1949.

MINNIE S. KING, Notary Public
My commission expires Nov. 17, 1949.

The Postscript

One of the most interesting sales efforts that I have seen is the "Help Yourself" honey stand on the highway near Portland, Oregon. There is no attendant but honey is on display in several attractive containers with a sign giving prices and inviting the customer to take the honey and leave the money. After about 12 years the proprietor, H. J. Moulton reports that rarely has there been any shortage and at times there is more money than he is entitled to. Apparently customers finding it difficult to make proper change overcharge themselves rather than to short change the honor stand.

Once before, on a highway north of Duluth, Minnesota I saw a similar honey stand and found it so interesting that I hunted up the owner a long distance away. Like Mr. Moulton, he reported his customers to be honest and that he found it to be a satisfactory outlet for his honey. That instance was reported in this magazine more than twenty years ago. In thirty years of travel I do not remember having seen any other cases where honey was left for sale without someone in charge. Few of us have so much confidence in the integrity of the average passer-by.

My compliments to the committee on arrangements for the International Pollination Conference at Seattle. Other members of the committee were quick to give credit to the chairman, Dr. A. M. Walrath, but no one man could have done such a complete job. Nothing was overlooked and the nationwide publicity concerning the value of the honey bee in pollination is worth more to the industry than all the contributions to the support of the Federation since its organization. The Seattle boys deserve a vote of thanks from all of us.

Three weeks spent in the field with C. F. Turnipseed, Washington's chief bee inspector, is a delightful experience. He knows his state and he knows his bees and he also knows Washington beemen. He is a very agreeable traveling companion, a combination which insures a pleasant journey. The time spent was far

Frank C. Pellett

too short to become familiar with the bewildering variety of sources of honey in that wonderful state.

In one neighborhood we found the beemen getting fine crops of white honey of high quality from the black locust tree. In another a good yield comes from lavender and in still another the peppermint fields give the beekeeper a substantial return.

In Skagit County they produce more than 90% of the world's supply of cabbage seed and three-fourths of the supply of turnip seed. Large numbers of bees are necessary for efficient pollination and the yield of honey is surprisingly good. Honey from cabbage is water white and has a very mild flavor. Honey from turnip is darker, but a light amber in color, and somewhat stronger than that from cabbage. It is still a mild-flavored table honey. Beekeepers who are so fortunate as to harvest honey which is not generally available should be able to develop a special market and thus command a premium.

Those who harvest a main crop of white honey and are within reach of small mint fields, are not enthusiastic about the honey from peppermint, since it only serves to darken their output. However, beekeepers within reach of large plantings are more enthusiastic, since they do get large yields. Although the honey is rather dark in color and of pronounced flavor, I am convinced that it would be possible to develop a special market which would take it in preference to the white honey. To my taste peppermint honey is very good and I am sure that there are many others who would agree with me.

Edwin F. Tuttle of Milford, Massachusetts has kept bees for fifty years. During that time he has lived in Rhode Island, California and Massachusetts. Evidently he started three years ahead of me. While my beekeeping experience started more than sixty years ago in grandfather's apiary, I bought my first colonies 47 years ago. At that time I had an

apple orchard of forty acres in Dent County, Missouri. Late spring frosts were so frequent as to make the orchard unprofitable, but there were some wonderful honey crops in the Ozarks in 1902 and 1903. One wonders how many there are among readers of this page who have kept bees for as long as Mr. Tuttle.

About April 20, Tuttle was surprised to find his bees storing honey in sections, apparently from the maples which had never before yielded surplus for him. Evidently they had an unusually early spring in Massachusetts since he reports swarms in May. It is interesting to note that, although he has alfalfa and vetch on his farm, he has rarely seen a bee on the blossoms of either.

To answer the reader who wants suggestions for a screen to hide the apiary, I would say that the beauty bush, (*Kolkwitzia amabilis*), which comes from North China is ideal. It reaches a height of about eight feet and when planted about three or four feet apart will provide a very good windbreak. For several weeks in May and June it provides such a wealth of flowers as is equalled by few other shrubs. The bees swarm over the blossoms and apparently find an abundant supply of nectar. For a combination of hedge, windbreak, abundance of bloom and efficient bee pasture it is hard to beat. Many nurserymen now list it so it is available.

R. E. Johnson of Barre, Massachusetts is investigating honey plants for that region and has an interesting report of a considerable number. He says that dwarf Essex rape is an excellent source of nectar to follow fruit bloom and that it is easily established by broadcasting seed. He reports that it may reseed itself under favorable conditions. In some localities this rape is quite generally planted for hog pasture. Where extensively planted rape is the source of high quality honey and some heavy yields are reported.

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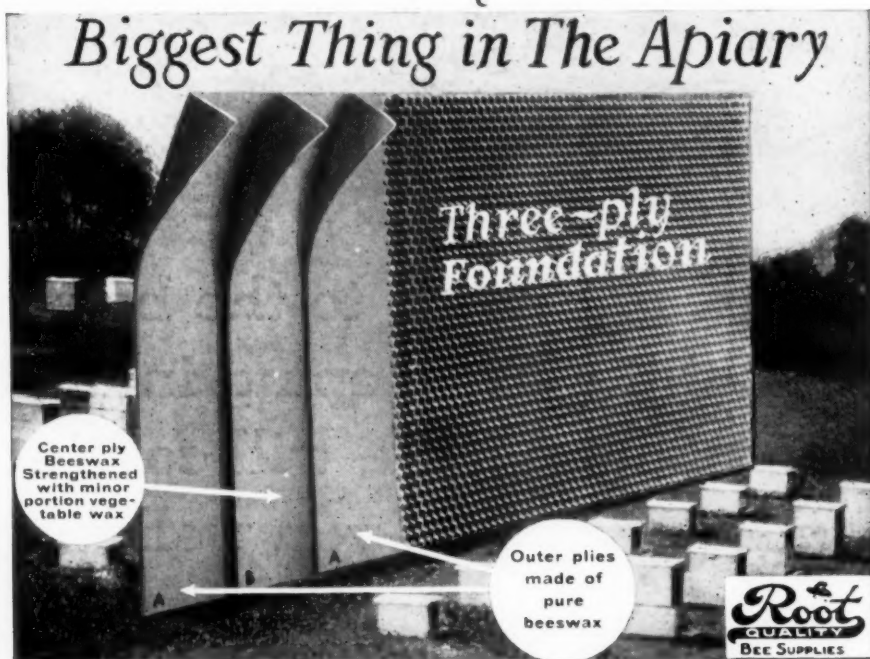
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Howard M. Myers,

*Mr. Myers and son, Melvin, operate about 2,000 colonies of bees on their farm and orchards outside Ransomville, New York. Mr. Myers and son also rent bees to other orchardists and they keep a large number of colonies operating in Florida.

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